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Have yourself a very ASCII Christmas

letter from the editor

Bit by bit, and byte by byte, technology is changing every aspect of our lives, even the traditional moments.

While long-distance phone calls from grandma are par for the course at Christmas, e-mail is just beginning to make inroads in our family. This time last year we still sent our greeting cards by snail mail, and when we typed out e-mail messages to friends around the globe, the notes tended to be long and winding.

Then, with Christmas dinner barely over, my father excused himself from the table and rushed off to check whether there was any e-mail from my sister, who had recently moved overseas. We all gave a bit of a groan. After all, it wasn't as if the phone was ringing and *had* to be answered. Moreover, there was no guarantee that there was anything there!

Changing with the seasons

But as winter turned to spring turned to fall, we all went our e-mail ways, expanded our e-mail contacts, maintained close ties with my sister and developed a new relationship with this unique form of communication. Gradually the distance between friends and acquaintances who were on e-mail and those who were not, widened—and the need for immediacy increased.

A close friend of mine is currently residing in South Africa but we communicate daily. During busy weeks when we do not, we return to e-mail with questions like: "Where have you been? Is everything OK? Is life getting too crazy to think?"

Another close friend does not have an e-mail account, and with every month Australia seems further and further away. Communicating with this friend is like putting a message in a bottle. Trudging to the mailbox is reminiscent of a scene from Dickens. Occasionally we call one another, but we have to remember the 17-hour time difference: there's too much to say and too little time—and then there's the phone bill!

Squabbles, online and off

When my sister came home to visit, the discussion swung around to e-mail. As anyone who has ever used e-mail knows, the new medium can often lead to misunderstandings. When it involves family communication across the Atlantic, it can also lead to unmet expectations and unreasonable demands.

The immediacy and ease of sending e-mail had created an unusual situation. My sister had been away for a year, but since we had been in constant communication. It felt as if we'd never been apart. The move 10 000 miles overseas had, in some ways, become insignificant. "You're talking to me as if I live around the corner!" she said.

At times we find that comforting, at other times it's frustrating—and sometimes it's hard to even distinguish where exactly we live. When it came time to part, we had no answers but we had developed an awareness that something quite momentous was happening to our traditional understanding of space and time.

Since then, our e-mailing technique seems to have changed slightly. Even my mother (who prefers to not use ATM machines and grudgingly learned to e-mail only when my sister boarded the plane) just fired off her first "brief" e-mail. It was the first time she had used the technology to send our lone phrase: previous to that, she had clung to the idea that a letter had to be a string of sentences.

We seem to be grasping the fact that e-mail is not just information. In it we are sending thoughts. We are allowing ourselves to publish text versions of what we think, and raw utterances become our sentences.

Think, type, send

And that's where "global village" hits home.

In a village you can exchange words with acquaintances you pass on the street or you can wish someone happy holidays as you shovel the walk. Until now when someone was outside of your immediate vicinity making contact involved considerations of time and money.

Imagine the scenario this Christmas. If it is indeed think, type, send, then the e-mail waves could be charged with mere "thoughts." "I just put the roast in the oven!" "Almost finished wrapping my gifts." "Just sang some carols and dedicated one to you."

This year, we've considered sending our greeting card the e-way. Although our thoughts will be expressed in an ASCII text format as primitive as cave drawings on the wall, the effect is no less dramatic for our place and time.

With the way technology is progressing, perhaps next year we'll send photo scans, sound bytes and hand-written notes. In fact, this may well be our last ASCII Christmas, although in many ways it's also our first.

Well wishes

With the final issue of the year I'd like to extend a warm thank-you to the *CC!* staff, who put in endless hours of devotion over the past year, and to our writers, who worked so hard to provide interesting articles. Also thank you to our publisher, who has taken us on an exhilarating—albeit exhausting—ride of expansion, and of course, to our advertisers and readers, for your continued support.

With this issue we launch the TechNomad tour, a *CC!*-sponsored event that will test the limits of wireless technology (see page 27) later next year.

We we gearing up for another great year at *CC!* in 1997. Please keep the feedback coming so we can create a publication that is just right for you.

All the best in the holiday season!
Mara Gulens, editor@tcpon.com

Your letters please

Letters on issues raised in the paper or general computer topics are welcome. Please be brief. We regret that we are unable to look up stories from past issues, suggest products or solve all your computer problems. Only those with names and a mail or email addresses will be published. Letters may be edited for space or content.

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Friends, Netizens, BBS members, lend me your eyes

Re: "The future of the BBS" (Vol 6 No 10).

I believe the Internet, as sensationalized as it is, will never spell the end of the BBS. They are independent entities, however related, and can co-exist—and, hopefully always will.

First off, both BBSs and the Internet are equally accessible. With an XT or even a dumb terminal with a modem, one can get onto a BBS or their provider, and perform almost any function one might possibly wish.

With that said, what differentiates between a BBS and the Internet is not just the World Wide Web, mind you, but scope and sense of community.

I've done the BBS circuit. I've done the Internet circuit. And I've found both to be pleasing and comfortable. Both provide a wonderful sense of community. Both have shallow and in-depth conversations.

Both fill the needs of people that go to them. There are online chat rooms, echomail, e-mail, MUDs, Web chat sites, IRC, a whole plethora of options one can use.

The only constant that I can find, and this is, I believe, what both BBSs and the Internet were originally designed originally for is that they both provide communication. Slow, fast, in depth, shallow—they are simply new ways for us to communicate in our shrinking world. What becomes of them is up to us, how we perceive them and how we use them. I, for one, will mourn the loss if either the BBS or the Internet dies. Both have enriched my life, as I hope they have for many others.

Hoo-Chuan Tan

PS Great paper and keep on doing what you guys do best!

To BBS or not to BBS

I saw a feature in the Vol 6 No 10 issue about "The future of the BBS."

I was a BBSer. I spent almost three or four hours a day BBSing for two years. I spent that much time on it because I think it is interesting, user friendly, offers easy access to every section or area, and so on. Six months ago, I tried to run a BBS (like Alan Thwaits said, I wanted to be the "god," I wanted to have my world).

I collected those BBS main files, and lot of BBS doors and games (I now like to enter dif-

continued on page 7

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About the Cover
This month's cover was designed by Jennifer Hanlon Scott & retouched in *Photoshop 3.0*. Composition & type were created in *Adobe Illustrator 5.5*. This image, shot by John Narvali, features Ron Dean as Kris Kringle. He is wearing a suit from Joy Theatrical Costumes & is using the NEC Ready 9628.

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The full text of CP! is available to read online at:
http://www.canadacomputes.com/

Letters ...

continued from page 6

ferent rooms and play more interesting, graphics-oriented games than when I was a BBSer). Now after I have set up the whole thing, including creating those ANSI pictures and menus—except for some problems with NetMail—the Internet seems to be eating the BBS's world and me.

One question: should I start my BBS now? Should I get a bit more experience before I start? Hope you guys can help me and give me some advice.

Thank you so much!

Andy

Good questions. Myself, I'd give in to Net pressure and at the very least have a telnet-in option, especially if you have any commercial motive. It's my opinion that the only reason to create a non-Net accessible BBS is for the love of BBSing—it's highly unlikely it will be profitable otherwise. Aside from that, if you have some specific questions, feel free to ask!

Thank you for writing! I really miss the BBS days sometimes—but I got eaten by the Internet <grin>

Brandi Jasmine

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Vancouver networking!

• • By JUNE CAMPBELL • •

If Lower Mainland users of the Internet and other new media want to network (and we don't mean LANs!) there's an army of associations at your disposal. The following list gives you several good places to start.

INFO BOX

British Columbia Internet Association
The association for Internet providers.
Contact. http://www.bcia.bc.ca/

Independent Computer Consultants Association
Contact: (604) 682 2747

Vancouver Community Net Association (formerly Vancouver Freenet)
Contact. (604) 257 3811 info@van.bc.ca or http://www.van bc.ca/welcome/

Vancouver Videographer's Association
Meetings, newsletter networking, and skill-development opportunities for professional videographers.
Contact. John Porter at jporter@direct.ca or (604) 984-9911

Webgrrls Vancouver
The newly established Vancouver chapter of an international networking association for women on the Internet
Contact: Emma Payne at (604) 685-3197 epayne@Webpool.com or http://www.Webpool.com /Webgrrls/

ASI Technology and Standards Watch Program

Coordinated by Advanced Systems Institute (ASI) the Technology and Standards Watch Program is a vehicle for companies to collaborate in the monitoring of technology developments as well as participating in the development of standards

The intent is that each specific technology area will have its own Watch Group comprised of individuals from both industry and post-secondary education institutions who share a common interest in that particular topic The groups provide a means through which industry professionals can meet, exchange ideas promote industry awareness and extend the technical knowledge of members

The first two Watch Groups underway are Digital Audio Video & Image and 3D & VRML. Contact Vince Lum at vince@asi bc ca or phone (604) 689-0551

Canadian Women's Internet Association (CWIA)

In January 1996 two Vancouver women, Lisa Voisin and Carol Wang, initiated an online networking concept to provide a community for Canadian women on the Internet This volunteer collective (soon to be a not-for-profit association) now has around 400 participants across Canada.

CWIA's Web site at http // www women ca/ publishes original material provides a meeting place for women involved in special projects (such as the May's Women's March Against Poverty held last May) and includes links to women's resources

CWIA also offers four online mailing lists: Women_L discusses issues of interest to Canadian women, Bus_L is a discussion list for Canadian businesswomen, Maiden_L is for newbies needing help navigating the Internet; and Mom_L is—you guessed it!—for moms.

For more information send e-mail to fe-mail@women.ca or phone (604) 985-6707

Interactive International Communications Society (IICS)

The Vancouver branch of this international association was established in 1992 and now boasts 180 members IICS is a professional association for persons involved in interactive communications The membership is comprised of musicians programmers, graphic artists project managers multimedia professionals Web designers animators and others

In addition to networking (regular meetings plus Internet mailing lists) IICS provides job postings conducts research regarding the skill requirements for the industry distributes current information to members and offers an entry point for students to access industry

Contact Alan C James by e-mail at info@iics bc ca or via the Web at http:// www iics bc ca/

Vancouver New Media Alliance (VNMA)

Formerly the Vancouver Internet Open Forum this organization describes itself as "a coalition of industry professionals who utilize multimedia and Internet technologies to achieve the following goals a) the sharing of knowledge and expertise in a non-competitive environment, b) to foster business relationships between VNMA members and c) the promotion of BC's multimedia and information technology sectors to a global community"

VNMA offers regular meetings, special events a newsletter, and membership listing on the Web site located at http // griffin multimedia.edu/~VNMA/

For more information, e-mail Ernest Von Rosen at ernest@amgmedia.com

Wired Women

This new group is a vehicle for women to investigate new media and to discuss implications and opportunities being generated by new technologies The Web site (http //www wiredwoman com/) reports that "We will explore the Web gaming interactive film online publishing VRML, Java programming applications, interactive writing interface design interactive television interactive music special effects and more"

Wired Women offers networking meetings, a mailing list, and inclusion in an online database and provides training opportunities for women to instruct or to learn about the Internet.

A companion e zine with the same name is accessible from the Web site Contact Emma Payne at (604) 685 3197 or epayne@Webpool.com

June Campbell is the owner of Nightcats Multimedia Productions You can reach her by e-mail at June_Campbell@mindlink.bc.ca or by phoning (604) 980-3219 during business hours. ◆

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Net BC

KEEPS BC RESIDENTS INFORMED

• • By STEVE BAIN • •

They've only been online since April, but NetBC has become one of the favourite coffee-break spots for BC Web surfers The free service is geared to provide two main types of news coverage general BC news and analysis and the occasional national story on their *NewsLink* page and high-technology news and related online Internet stories on their *NetWorks* page

NetBC has structured the Web site to exploit key strengths of the World Wide Web. "We're not just a newspaper on the Internet" says editor Sid Tafler "Our feeling here is that the Internet is a distinctive medium like newspapers radio or television. It's a whole new form of media

"We very much felt that it should have its own news product We don't feel a newspaper on the Web is any more effective than reading a newspaper on your television or on the radio So while those media have their own specific strengths, we've capitalized on a distinctive news format and as far as I know we're the only Web site of this kind in Canada."

Like many of the "free" services on the Web advertising revenue is the key to NetBC's business success Revenue is generated by ads placed in a variety of formats. "We generally offer our advertisers banner ads," says Tafler "But we occasionally offer embedded ads which correspond to the subject in an editorial story as is a common practice in traditional newspaper features We also carry an advertiser's message on our own site in a distinctive place we call *Market Street* This works well for our advertisers who have more to say than they can in a banner ad"

A forum for Western concerns

One of the more intriguing areas of the site is a feature that enables visitors to participate in various forums of unique concern to British Columbians "We call it *Round Table*" says Tafler. "This is an interactive section where our readers can follow and respond to discussion threads This can include topics we've covered in the news, or it can be of their own choosing."

Round Table participants include some of the more prominent people in government and private industry in BC. Current topics in NetBC's *Round Table* include: civil servants and the public good, Internet problems and solutions; Militias in BC, photo radar Quebec and manifest destiny; the real cost of economic growth, unemployment issues, and welfare residency requirements

Visitors may be surprised by another unique area. "We have something we call direct entertainment in an area called *OpenSky*," says Tafler. "We have a writer living the West End of Vancouver who writes more about entertainment than strictly news stories."

For more information on NetBC, contact Sid Tafler at stafler@netbc.com or call (604) 381-4244 ◆

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Computers can help kids—or mesmerize them

Young sex-abuse victims may prefer telling a computer what happened to them rather than a human being

• • By LEE LESTER • •

UK Department of Health experts say their Macinterview program could save children the anguish of reliving their experiences.

In Toronto Hospital for Sick Children psychiatrist Dr Arlette Lefebvre says youngsters who have been abused or are suffering from other emotional problems are often scared of all adults, including police officers, social workers, and doctors trying to help them, because of what one adult has just done to them.

"Computers," she says, "are known to have helped couples having marital difficulties tell about their sexual problems. It makes sense that they could help some children. After all, a computer screen is neutral while a human may not always be seen to be."

But she warns that great care must be taken before computer interviews could be admitted as evidence.

Macinterview employs images, sound, speech and video to get children's views of their homes, family and peers, emotions in different circumstances and with different people and experiences of pain and discomfort.

Youngsters select representations of themselves from a multi-ethnic display. By dropping on facial expressions they represent emotions in various environments and by different people.

University of Manchester psychologist Rachel Calam says the idea for Macinterview arose when it was noticed how well children interact with computers.

"We were working on difficult suspected abuse cases and were very conscious that children felt they were being put on the spot and were uncomfortable in one-to-one interviews," she told the *Daily Telegraph*, London.

Macinterview can also be used in cases of alleged abuse of adults with learning difficulties, in fostering interviews to find the right home for a child, and in pediatrics where children have unexplained aches and pains.

White line fever

Meanwhile, also in Britain, a 16-year-old boy spent ten days in a Devon hospital in a hypnotic trance after playing a motor-racing video game in an amusement arcade.

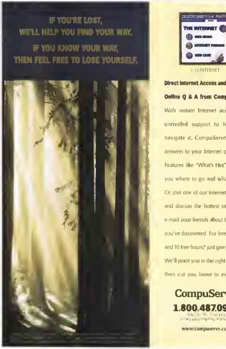
James Little continually relived the driving experience in his imagination and was convinced he was crashing and burning to death. In hospital he sat clutching an imaginary steering wheel, his feet moving on imaginary pedals, completely oblivious to what was going on around him.

He was given anti-hallucinatory drugs and sedatives but was only brought out of the trance by a clergyman-hypnotist. The Rev Fred Pennington said: "He was in a state of self-hypnosis caused by this wretched machine and I had to reverse that by talking to him and changing his mental attitude."

Pennington had previously helped calm down a half-dozen other youngsters who became "excited and overwrought" after playing on arcade machines.

James, now completely recovered, was diagnosed as suffering from post-traumatic stress disorder. His mother Juliet wants amusement arcades to display warning signs.

In Toronto, Lefebvre calls for more research. Similar seizures, she says, have been brought on by strobe lights at discos and other causes. It would be silly putting warning notices in amusement arcades and on computers based on only a few cases. ◆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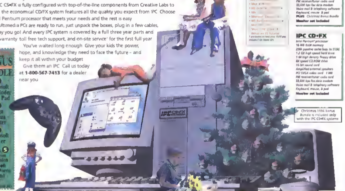

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PERSONAL COMPUTERS

[illegible]

Our holiday gift guide

It's that time again. Time to tally your list of lucky recipients for the holiday season—and decide how much you can afford to spend.

The season of giving can get out of control, however, so we sent some of our staff and writers on a window-shopping spree to help our readers narrow their decision making. The products below vary from practical to fanciful, in $10, $50, $100, $250, and sky's-the-limit price ranges.

Good luck to those who still have to brave the stores this season—just remember, it's supposed to be fun. Happy holidays!

• • Compiled by LARA THAIS KING • •

SOHO-Ho-Ho:

GIFTS FOR THE HOME-OFFICE CROWD

• • By DAVID ROSEN • •

Just because you're cooped up in that small office of yours you don't have to forgo the traditional seasonal get-fest! Nosirree Bob! Just tell your friends and family that you're expecting prezzies and then sit back and wait for the gifts to come flying in!

What can you expect for

$10 and under?

- Some fancy paper. There's not much in this category so we may have to stretch a bit. A fancy ream of paper may just grab someone's attention and close that deal. $5 and up at various office supply stores (including Office Depot and Grand & Toy)
- A new wrist pad. An inexpensive wrist pad is better than nothing. Depending on your taste, gel-filled pads are a bit better than the traditional padded plastic variety—and you can refrigerate the gel-filled ones to help keep down any swelling. $10 and up
- A new mouse pad. Oh, *nothing* is more aggravating than a dirty mouse. Prevent junk from building up in the mouse wheels and making your cursor jump around. $5 and up

$50 and under

- Newspaper or magazine subscriptions. How about a subscription to this publication? Okay it may seem a bit self-serving but, hey there's nothing more disappointing than missing our insightful commentary on All Things Computer. The price is right, too! For just $24.95 (including the GST) it comes right to your door. Contact Renee Wilson at renee@tcpon.com or (416) 588-6818 to get 12 months.
- RAM upgrades. Forget that old expression "you can never be too rich or too thin." The *real* goal in life is to have lots of RAM. From $10 per megabyte at various retailers.
- Long-distance directory assistance ain't free anymore so you should know about *Canada HomePhone* ($49.95) and *Canada BusinessPhone* ($54.95), CD-ROMs that contain *millions* of published telephone numbers.
- It's said that music calms the savage beast and some of the best office music is from Verve. Try *Wining, Dining, Dancin' and Romancin'*, a four-CD set of jazz with vocal accompaniments by such luminaries as Oscar Peterson and Miles Davis.

continued on page 17

Holiday hardware

• • By MYLES WHITE • •

If I go Christmas shopping for computer hardware for a friend, I'm going to want to know his or her computer as well as I know the friend. Although there are all kinds of goodies in the under $50, under $100 and under $250 categories, it can create hassles if I don't already know what my friend's system has under the hood.

To avoid buying something that is incompatible with the operating system or existing hardware s/he already has, the smartest present I can give is a gift certificate from a local hardware retailer.

That said, let's go shopping!

Mouse houses

Clip hanger

I like stocking stuffers and face it, even if these don't become an indispensable part of your friend's arsenal, you'll go right for cute. For example, a trip to your local [illegible] will reveal a cordless battery-operated hand-held vacuum cleaner just right for sucking the dust [illegible] of your friend's motherboard ($14.99—and I want one). You could also snag a neat little toolkit for $24.99 to take the system apart.

Creature stirrings?

Everything with a ball dies quickly—with the poss-

continued on page 16

Have a "useless" Christmas

• • By WILLIAM A. WOOD • •

I'm not going to speculate on why I always seem to get chosen to represent "useless" (occasionally called "neat" or "nifty") computer accessories. Instead, I'll just get to it. In the interest of not being ridiculous, I've topped out this search at around $40—anything over that is either insane or requires a direct request from the recipient.

Right: Circuitboard picture frames? How thoughtful!

CYBERCALIFRAGILISTIC

For the under $10 category there are a few trinkets to be found in most computer stores (Future Shop, Computer City and so on), which may or may not put a smile on a computer user's face. For example, velcro cable ties (such as those from PC Accessories), which cost $4, or coloured CD-ROM replacement "jewel boxes" (such as the $7 ten-pack from Memorex) will at least add some hue to a computer environment. I'd be remiss if I didn't offer

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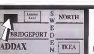

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Game gifts for the 1996 holidays

As I sit down to write this "Christmas Stocking Stuffer" article for the second year in a row, I not only look back on the most spectacular computer games of 1996, but also reflect on how far PCs—and PC games—have evolved over the years. I mean, it's downright scary how fast things change in this industry.

• • By MARC SALTZMAN • •

Let me put it this way: I was just reminiscing about the "good ol' days" of computer gaming with Mike Wolf of *PC Gamer* magazine when we realized I'm only 26 and he's only 24!

I think about the number of upgrades I've had on my system to support these games over the years and I want to scream "Enough already!" If you've played any of these CD-ROMs I'm about to recommend as awesome holiday gifts, however, you'll agree they justify every hard-earned penny spent.

The bottom line is the madness is not going to stop any time soon We are the children of an exhilarating era called the Digital Age where many TV commercials now end with a "WWW" URL address Hollywood stars are now hired to act in computer games, and high-school and University students are penalized if their essays aren't completed using *Word for Windows*

You are reading this article because like the millions of us in the world, we choose to be a part of this Information Revolution because it *is exciting* Yes perhaps my Pentium 133 with 32 MB of RAM will soon be a forgotten relic but I'm having far too much fun with what I've got now to worry Rest assured, the PC games we will be playing in future months and years will be well worth the inevitable upgrades to which we'll succumb

So although everything is moving quite fast don't panic! Relax, pull up a chair and try out some of the best PC games that 1996 had to offer us Hopefully your system (or the recipient of a great CD-ROM gift) will be able to support most of these games so make sure you check the game box at the store for the system requirements

The following list should help you decide where to spend your Christmas bonus this year and they're broken up into six gaming categories for your convenience Action Adventure/Role Playing Games, Simulations Strategy/War Games, and Sports.

NHL '97, from EA Sports

Action Games

It was another big year for PC action games, and although some types came close (*Crusader: No Regret*, *Abuse*, *Time Commando*) 3-D first-person perspective games still rule

Quake (id Software avg price $65)

This highly anticipated bloodfest is one of the most talked about games of the year. In a *real* 3-D rendered environment blast your way through four episodes of pure evil in an interactive gothic world If network modem Internet or serial-connection combat is your thing this is *the* quintessential multiplayer game to own A truly creepy atmospheric game complete with a CD-quality soundtrack written and performed by Trent Reznor from Nine Inch Nails fame Short on plot, but *big* on fun The first in the next generation of 3-D shooters

Duke Nukem 3D (3D Realms $57)

Whereas *Quake* has *atmosphere Duke* has *attitude* The controversial hit of the year is a must have for 3-D action fans. The true *Doom*-killer out of the many who have tried *Duke Nukem 3D* is an addictive game with great monsters and neat weapons, and each of the 30-plus levels are beautiful designed. Even when you've finished the game, don't shelve it just yet—log onto the Net and grab any of the thousands of extra maps created by people like yourself (check out the Independence Day or Carnival files) or make your own using the free utility on the CD-ROM Multiplayer "Dukematches" are also a blast

Adventure and Role-Playing Games

It was a relatively quiet year for Adventure games compared to past years, but thankfully RPGs are starting to make a comeback with several upcoming titles to look for in the next few months *Diablo Dungeon Keeper Lands of Lore 2 Nemesis. The Wizardry Adventure Meridian 59* and *Ultima Online*

The pick for this year's ultimate Adventure or RPG game is

The Elder Scrolls: Daggerfall (Bethesda, $75)

The long-awaited sequel to the award-winning *The Elder Scrolls Arena* (which won over 20 "Best Role-Playing Game of the Year" awards) is a welcome relief from the long dryspell of computer RPG games Travel in a world "of love and darkness magic and sorcery" that is equivalent to the size of two Great Britains (I'm not kidding!) Customize your player, interact with thousands of characters in hundreds of towns choose to follow one of the many quests or simply venture out alone to discover this huge universe on your own

If you purchase this game don't make plans for the next six months or so but make sure you first download and run the patch 1.03.179 from *http://www.bethsoft.com/*

Adventure game runners-up Activision's *Spycraft: The Great Game* Interplay's *Normality*, and Access Software's *Pandora Directive*

Simulations

PC sims are a fairly consistent gaming category from year to year The two titles I would pick for the top sim products of 1996 happen to be very different types of sims and neither are from the traditional flight genre for a change

Mechwarrior 2: Mercenaries (Activision $70)

Activision does it once again with the third installment in their popular *Mechwarrior* series Not a simulation of a *real* machine this fast and fierce game asks you once again to climb into a giant Mech (combat robot) to battle others like it—but this time you have make money doing it If you're alive at then end of your mission(s), you can spend your dough to upgrade and customize (or repair!) your Mech, or purchase a new machine altogether

Stunning 3-D texture-mapped graphics fluid animation, and an engrossing soundtrack make this a sure-fire hit. As with many games this year, *Mechwarrior 2 Mercenaries* comes with free multiplayer options

Grand Prix II (Microprose, $70)

Racing enthusiasts can now join a real FIA Formula One team and race some of the most challenging courses in the world. Kick asphalt in this fast-paced and photo-realistic racing sim (in 640x480x256 mode especially) but you may need a higher-end computer to appreciate it. Crank up your speakers and turn off your lights for full effect. This CD-ROM was created by Geoff Crammond (designer of the award-winning *World Circuit*)

Runner up Origin's *Wing Commander IV The Price of Freedom*

Grand Prix II, from Microprose.

Strategy and War Games

This past year marks the second for real-time strategy games to top many a computer store's inventory list. We also witness the return of legendary designer Sid Meier with the turn-based head-scratchers *Civilization II* and *CivNet* As we wait anxiously for Westwood's *Command & Conquer Red Alert* to hit the shelves (soon), Blizzard does it again with this year's strategy game winner

Warcraft II Expansion Set: Beyond the Dark Portal (Blizzard, $39)

Released mid-year this well put-together expansion set supplements Blizzard's successful *Warcraft II* game, released in 1995 Twenty-four all-new scenarios and over 50 custom-built maps will keep you fixated at your monitor until the wee hours of the morn Since you need the original *Warcraft II* to play this, the price for this "add-on" pack is relatively cheap

Runners-up Microsoft's *Close Combat* and Microprose's *Civilization II*

Sports Games

For sports games it was another year of many efforts but few golden products As CPU processor speeds climb and as RAM becomes more affordable we may be getting to the point where sports games on the PC rival TV console units

NHL 97 (EA Sports $60)

Towards the end of the year we saw this top-quality Canadian product blow away the PC sports competition with their "if it's in the game designing philosophy Whether you're a huge hockey fan or just a casual observer *NHL 97* simply *smokes*

The players in this game are so real to play and watch you'd swear you were viewing highlights from *Hockey Night in Canada* Animations are smooth, uniforms are highly detailed, music is pumping—everything you'd expect from EA Sports is here Choose from all the NHL teams (and national teams too) and 650+ players for single-player or head-to-head games

Make sure you have a mid-range Pentium chip before buying this game though because the system requirements are a little steep

Runner-up Access Software's *Links LS* golf game

Marc Saltzman is the lead author for *Internet Games Directory* from Que/Lycos Press. ◆

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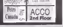

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Holiday hardware...

continued from page 12

ble exception of the Logitech Trackman Marble (about $120)—so how about a cheap throwaway mouse? You can find no-name mice starting at 13 bucks. You could also buy a recognizable-name model for $30 or $40 or go all out and aim for Microsoft's new scrolling model (closer to $100).

If you're not sure whether your friend will appreciate the thought you can also go for silly stuff such as a furry little mouse house ($7), several choices of mouse pad ($8), a clip hanger that glues to the monitor to get the little rodent out of the way ($3) or a clip to keep the cord and mouse pad from parting company ($4).

Keyboards die too and there's a range of replacements from around $40 for low-end models to just over $100 for the Microsoft brand name or $145 for Cirque's version with built in GlidePoint pointer.

Diskettes are always a nice gift with prices ranging from $8.99 for a 10-pack to $19.99 for a box of 25. Your friend has a tape drive? TDK QIC-80 tapes (for drives such as the Colorado Jumbo 250) are about $29.99 each.

This is the part where knowing your friend's/spouse's system well is a necessity and a gift certificate is a good idea. I don't know anyone who wouldn't like more memory. Prices fluctuate but 30-pin single inline memory modules (SIMMs) range from $17 (1 MB) to $59 (4 MB non parity) to $89 (4 MB parity) while 72 pin SIMMs range from $39 (4 MB) to $69 (8 MB) to $155 (16 MB).

A converter to use 30-pin SIMMs in 72-pin sockets was as low as $19 and one retailer (Compumemories) was even offering rare SIP (single inline pin) modules for older computers at $25 (1 MB) and $49 (4 MB).

A scuzzy Christmas

Always wanted a SCSI adapter but scared off by the over-$300 price tag for a good one? Adaptec makes a low-end adapter (the 16-bit ISA [illegible]) that sells for around $99. The Lexmark JetPrinter 1020 colour inkjet sells for around [illegible] (although at 17 cents per page for 15 per cent coverage it's a little pricey for consumables).

Radio Shack (again) has its own brand of computer speakers—their 25 W RMS models with subwoofer sell for $199. If you already have speakers but want to add that bass-producing subwoofer Yamaha has one for around $169.

Fujitsu, Seagate, Maxtor and Quantum all have 1 GB EIDE hard drives for under $250. I've also seen the Pioneer DR-111, a 10X speed CD-ROM advertised for $175.

If you and your friend are *really* close and s/he has an aging 486-based system—say something like a 486 SX or DX/33 how about a brain transplant? The Intel 486 DX4/100 OverDrive processor will fit that system (so long as its processor isn't soldered to the motherboard) and at roughly $169 will produce quite a performance boost.

If your friend has an aging 386 and you can afford two or three relatively inexpensive gifts, I've seen a Data Expert motherboard with a non-removable 100 MHz Cyrix 5x86 processor soldered to it for as low as $168 (memory extra).

While on the topic of multiple gifts there are several brands of 28.8 Kbps and 33.6 Kbps modems selling for under $250—some for under $200. One of these plus a three to six month subscription with a local Internet service provider (average about $30 per month) is a gift that will keep on giving. ●

Have a "useless" Christmas ...

continued from page 12

one other choice for the budget-conscious shopper: obsolete computer books which are extremely plentiful in book sales, usually under $5. They make great conversation pieces or doorstops!

Got some more to spend? If so I heartily recommend one of the Dilbert cartoon books ($17.95 for the big ones), the philosophy of which every computer/office worker should take to heart. These books may not help you operate your computer but they might keep you from throwing it out the window (or dropping it on your boss's head).

On a more frivolous note, what could be cheesier than a screensaver (which most colour monitors no longer require and modern operating systems—such as Windows 95—include anyway)? These programs are usually relatively cheap ($25-$40) and good for at least a few hours of entertainment (some, I admit, can be downright mesmerizing—not necessarily a good thing when there's work to be done). Oddly enough quite a few television shows seem to offer such products, for example *The Baywatch Companion with Screensaver* from Byron Multimedia ($27).

Surfing in a winter wonderland?

Are you up for some online shopping? The Internet as you might imagine is a superb source for many products of varying degrees of weirdness. Any search engine will yield multiple targets for "computer gifts" but there's one site I'd like to single out: Cybercalifragilistic (http://www.webcom.com/geragift/ComputerGifts.html) has an impressive selection of goodies such as tie-dyed "email@ddress" t-shirts (US$19.95). The Hollywood, Florida-based company promises 48-hour turnaround on most orders. Call (954) 989-3338 or visit the WWW site for more info.

They have *lots* of things far too many to mention here—okay I'll give two more. How about a picture frame made from old circuitboards? Various sizes range in price from US$10.50 to US$47.50.

The *pièce de résistance* though is the Computer Piñata (US$45 for the empty shell, US$75 pre-filled). I'll bet at least once you've wanted to whack your computer with a stick. Well, here's your chance—kind of pricey though.

Dream a little dream

Speaking of pricey, I can't resist taking a stab at the "sky's the limit" category. My first pick would be Virtual i-O's Virtual i-Glasses (US$499), which are 3-D head-tracking goggles for use with your PC. Now you can *really* get into your games (many are already compatible such as Activision's *Mechwarrior 2 Mercenaries*). Check out http://www.vio.com/ if you're curious.

At least half the fun with useless gifts is digging them up yourself and only you know how twisted your intended giftee's sense of humour is (magnetic diskette holders, anyone?). So happy hunting! ◆

Holiday homework made easier

• • By JASON CHILES • •

I knew the assignment to assemble a gift list for students would be tough

It took quite a bit of browsing to find items under $10 I found something that made my sore wrists cry out with glee wrist pads for the mouse and keyboard can be had for only $10

For under $50 head for the book section Of course the last thing some students might want is to read more books but some volumes can be of great help For example if your student is on the Internet *The 1997 Canadian Internet Handbook* is a must. At $25 this book is an invaluable resource for those new to the Net and who need help with research

Cleaning isn't a priority with most students and dust is always a concern around computers Dust covers for a keyboard monitor or printer cost around $15 each

More money, more choice!

Finding gifts under $100 was much easier *Netscape Navigator Gold 3.0* offers a Web editor plus a ton of extra material to help build better pages It is a little expensive at $99—but it is a gift after all

The disadvantage of having a Web browser is that it may leave students with little time to write their papers as they surf the Net. So how about trying to impress the instructor with a few graphics? *Masterclips 101,000 Premium Image Collection* is just one of several collections of clip art, pictures photos, and sounds that can be used to spice up presentations essays and Web pages *Masterclips* costs around $80

For less than $250 students will find Microsoft's *Home Essentials* collection particularly useful I hear the moans about Microsoft already but this package has a lot for about $115 It offers *Microsoft Word, Bookshelf, Money, and Works* providing word processing budgeting, research and other tools in a fairly cheap package

It might not have the flexibility of some other products such as *Microsoft Office* or *Lotus Perfect Suite 7* but with the addition of an almanac a book of quotations and a thesaurus, what else does a student need?

Oh yes—something to print out these forthcoming assignments would be nice A trip through the hardware section revealed the Canon BJC-240 colour bubblejet printer This beauty was selling for $249 99 just in range for any parent who really cares

The ultimete

Now it was time for the ultimate gift the sky's the limit A Pentium 200 with enough peripherals to run the space shuttle you say? No

How about something to make seeing the work the student in question does easier to see? A Nokia 17-inch 25 mm dot pitch Trinitron monitor It makes work easier to see reduces eye strain, and allows for a larger desktop to work on. Of course you'll pay through the nose for this one around $1 300 The improvement over that measly 14-inch monitor that most systems come with is unbeatable however ◆

SOHO Ho Ho ...

continued from page 12

- Why waste time making that graphic when you can buy it from Canadian clip-art source extraordinaire Image Club? Clip-art packs are $40 and up Image Club can be reached at 1-800-661-9410
- Berkeley Systems of flying-toaster fame has now released *After Dark 4.0* a way-cool screensaver Besides over 20 animated new displays the software uses your online service to broadcast news and sports to your desktop from the *Wall Street Journal USA Today Sports Illustrated* and others! $40

$100 and under

- Casio has designed a digital diary telephone directory memo pad calculator and link to your computer all in one For the disorganized or the control freak an organizer is a must have About $60
- *Kai's Power Goo* You can create and manipulate images that feel "gooey" on the screen Tools such as Smudge and Smear help release your inner child About $70 from MetaTools
- If you type for more than a few minutes a day you'll appreciate an ergonomically engineered keyboard There are now dozens of third-party keyboards on the market Many also have customized keys that automatically perform preprogrammed functions From $90 and up

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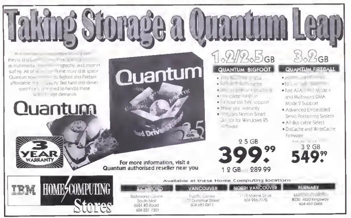
- Imagine backing up 100 MB of information on a disk that looks like a thick 3 5-inch floppy—that's what a Zip Drive does Suggested retail price of $249 95 (including the $50 manufacturer's rebate) From Iomega
- Nothing spruces up a laptop like a new leather case. From $120 and up (way up) depending on the features of the case

Sky's the limit

- Easy Photo Reader is the simplest way to get photos up to 5 by 7 inches onto letters flyers and even Web pages in 24-bit colour Available for Windows and Mac About $275
- Global Village's TelePort Speakerphone Edition is a way-cool gadget The industry's first 33 6 Kbps modem is also a standalone speakerphone (even when your computer is turned off) The simultaneous-voice and data feature lets you send and receive computer files while talking to another party on the same telephone line We told you it's cool! The TelePort Speakerphone Edition has a Canadian estimated street price of $369 ◆



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Preserve your holiday computing cheer

• • By DAVID ROSEN • •

Save the boxes In the mad dash for the presents you may be tempted to toss out the boxes in which your computer or other gizmo came Whoa! Not only will the boxes be useful (in fact *necessary*) if you have to return the new computer for exchange or repair but the original boxes are also great for moving. Try to nest small boxes inside the larger ones and don't forget to seal the boxes so dust stays outside

Install software or games (and figure out how they work) before your kids wake up on Christmas morning and want to play First of all you'll look bad if you can't get everything working the way it should. Second why have all that hassle on a holiday when you're supposed to be enjoying yourself?

Finally the best time to find out if your computer system can run new software is *before* you give it to your kids! Ever spent Christmas Day looking for a store that sells RAM? It's not a pretty picture

Make sure you have all the necessary accessories Cables paper ribbons and cartridges may all seem like trivial details but they can make or break holiday fun Imagine purchasing a new colour printer and some comic book software only to find out the store didn't give you a cable or a colour-printer cartridge Yikes! You don't need *that* kind of stress

Are the support lines open on Christmas (or, at least Boxing) Day Now's the time to check. Apple Compaq IBM and lots of other companies have extended support hours during the holidays In a pinch you could hop online and see if the manufacturer has an area on AOL, CompuServe or the Web

Space issues

You don't want to have jam with your RAM so don't use the kitchen table as a computer desk Your new computer needs its own space—safe from the elements and jealous pets If the new computer is for the kids then consider locating it in their room (this being said many parents want to keep an eye on their youngster's computer use especially to ensure homework is getting done and kids aren't getting into trouble on the Net)

And while we're on the subject of location there's no point in having a computer if there's no power is there? Now's the time to ensure the area has the necessary electrical outlets telephone jacks and lighting

Got bad power? Now's the time to invest in a power surge protector These critters are available from about $20 and up Don't forget that power spikes can travel down the telephone line as well Protect your modem with a modem surge protector

Are there any security issues you need to attend to before the kids get their hands on the new computer system? Do you want to have all the neighbourhood kids breezing through your past tax returns—and maybe "accidentally" posting them on a popular Internet newsgroup? Better get some encryption software or a system utility that locks out access to your personal information ◆

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New Vancouver service bureau never sleeps

The BC Files

Steve Bain

If you work in the print trade or the design industry, Vancouver just became a bit more convenient. Despite fierce competition in a fickle price-driven market, a new service bureau, DPI, opened its doors for business last month—during what is traditionally one of the slowest business seasons. The newcomer (named after a printing term—dots per inch) offers something many of its competitors don't: 24-hour service, seven days a week.

Co-owner Elena Martinez says the business was planning to use slow times during their startup to work out any kinks, but it hasn't turned out that way. In fact, "business has been very good so far," she says.

Martinez owns the company with her business partner Javier Navarro.

In the film output arena, DPI is going up against several established, aggressive competitors in the city's downtown core, including WYSIWYG Graphics and Lasers' Edge. While DPI's services include film output required for traditional printing, however, they also offer high-end colour scanning, proofing, printing and even a CD-ROM archiving service.

"We specialize in high-quality colour output," says Martinez. "We do colour prepress output for *Harper's Bazaar* and high-profile colour packaging output for companies such as Pepsi."

Print designers racing to beat deadlines are infamous for pulling all-nighters in order to please a client—and now they have an all-night place to go. "We found that many designers work at home or late at night and they sometimes need to drop off their files at odd hours or on weekends," says Martinez. DPI also uses the night's quiet times to complete the day's leftover jobs.

This is the second DPI outlet. The first (also called DPI) is located in Mexico City, where they have been operating for the past five years.

Details on the company's specific services can be found online at http://www.dpipeople.com/

New BCSC service comes online

After spending $7 million setting up an electronic filing service for publicly trading companies, the BC Securities Commission (BCSC) is set to launch a free information service which the public can access through the Internet. Once in full operation, the service is expected to provide detailed information on 1,000-2,000 participating businesses. Information available through the Internet will not be up-to-the-minute, however. For that, users will have to pay a fee.

BCSC systems manager Ken Ontko says the massive five-year software project is the largest ever undertaken by the firm. Companies are required to use proprietary electronic-filing software developed for the service to connect to the securities commission or the Vancouver Stock Exchange.

Glenayre tops the high tech scene

Vancouver-based Glenayre Electronics has made the news again by ranking as the largest high-technology firm in the Lower Mainland. The 33-year-old maker of mobile data equipment, pagers and software posted revenues of more than $440 million last year, nearly double the previous year's performance. The company employs nearly 800 people in 27 offices worldwide.

After Glenayre come such companies as Electronic Arts, Alpha Technologies, MacDonald-Dettwiler, Nortel, MPR Teltech, Seanix Technology, Dynapro, Digital Equipment of Canada and NII Norsat International, all of which are located in the Lower Mainland.

Glenayre Electronics was also recently declared one of BC's fastest growing companies by the firm Arther Anderson Consulting.

Comdex comes to Vancouver, again

For the third consecutive year, Comdex will host a computer and technology event at the Vancouver Trade and Convention Centre, January 21-23.

The event's theme revolves loosely around information technology and consists of a trade show exhibition and conference discussions. Highlights include management strategies, Web-site and intranet building, document management and workflow, and communication technologies.

The keynote address will be by Microsoft Canada's general manager Jeff Dossett. This year's line-up of speakers includes 30 high-tech and private industry professionals giving seminars on everything from "How your Web site can increase your profits" to "Bulletproof networks for the part-time network manager."

Exhibit-only admission costs $25 at the door or is free if you register far enough in advance through the Comdex Web site at http://www.comdex.com/

Three-day conference passes are available for $345.

To find out more information or to obtain an event flyer, call (604) 685-1896, extension 1650, between 9 AM and 5:30 PM.

Steve Bain is a writer in Vancouver, Canada. He can be reached on CompuServe at 72623,1233 or via the Internet at Steve@helix.net ◆

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Motorola VoiceSurfr 28.8 Int Fax Modem	$184[illegible]
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US Robotics 33.6 Ext Fax Modem	$230[illegible]
US Robotics 33.6Vi Int Modem(Full Duplex)	$175[illegible]
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[illegible] 9ms 111K Ultra Wide	[illegible]
[illegible] 9ms 112K 5400RPM	[illegible]
[illegible] 9ms 112K Wide	[illegible]
[illegible] 9ms 512K Ultra SCSI	[illegible]
[illegible] 9ms 112K Ultra Wide	[illegible]
[illegible] 9ms 112K 5400RPM	[illegible]
[illegible] 8ms 511K 7200RPM	[illegible]
[illegible] 8ms 1MB 7200RPM	[illegible]
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[illegible] 11ms 1MB SCSI-2	[illegible]
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Seagate 4326NT 2GB 4mm DAT Int. SCSI Drive	[illegible]
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Seagate 4325NP 8GB 4mm DAT Int. SCSI Drive	[illegible]
Seagate [illegible] 8GB Int. SCSI Drive	[illegible]
Sony SDT [illegible] Int/Ext 2GB DAT	[illegible]
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[illegible]	[illegible]
[illegible]	[illegible]

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Matrix 3000VA/5000VA (Modular UPS)	[illegible]
SmartCELL for Matrix	[illegible]
Line Conditioner LR600/LR1250	[illegible]
PowerChute Plus for Novell v4.22	[illegible]
PowerChute for Windows	[illegible]
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Connector RJ45M	[illegible]

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Cable RG58/AU Bulk per 1	[illegible]
Cable RG58/AU Bulk per 1000 ft	[illegible]
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3COM 3C509B Ethernet III BNC isa/5+	[illegible]
3COM 3C509B Ethernet III BNC 20 pk	[illegible]
3COM 3C509B Combo BNC/RJ45 isa/5+	[illegible]
3COM 3C509B Combo BNC/RJ45 20 pk	[illegible]
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3COM 3C592 Combo BNC/RJ45 EISA	[illegible]
[illegible] PCI Ethernet III Combo	[illegible]
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HP JetDirect [illegible] RJ45	[illegible]
HP JetDirect [illegible] RJ45/BNC/LocalTalk	[illegible]
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[illegible]	[illegible]
[illegible]	[illegible]

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[illegible]	[illegible]
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[illegible] Combo NE2000 Compatible	[illegible]
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GVC PCMCIA Ethernet Combo + 28 Kbps Modem	[illegible]
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SMC 8020BT EtherEZ PC Card Combo	[illegible]
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3COM 3C16701 OfficeConnect 8/TPC	[illegible]
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SMC 33[illegible]TC TigerStack 11 Port Hub	[illegible]
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10 BASE T Adapter

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Intel ISA EtherExpress Pro 10+ 10BaseT	[illegible]
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Microdyne NE 2000T+ 10 Base T 20 pk	[illegible]
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Intel EC100TX Express [illegible]	[illegible]
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420CDT	P100	8MB	1 3GB	11 3 TFT	$4 680
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430CDT	P120	16MB	1 3GB	11 3 TFT	$4 800
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Windows 95 and NT 4.0 similarities are only skin deep

• • By MYLES WHITE • •

With the release of Windows NT 4.0 Microsoft has completed the first phase of a major transition away from the original Windows interface

The next phase will come next year with the release of *Internet Explorer 4.0*—currently code-named "Nashville" and ostensibly a World Wide Web browser—which is designed to become the front end for both Windows 95 and NT In the meantime with NT's new front-end facelift, a casual observer couldn't tell if you were using Windows 95 or Windows NT You'll find the same taskbar the same "Start" button the same ability to drag shortcuts to the desktop, and so on.

It's only when you get under the hood that the differences between the two products begin to appear. To begin with, NT (which, when first released, stood for New Technology) is a full 32-bit operating system—unlike Win95, which still contains significant amounts of 16-bit code to allow it to run "legacy" (i.e., Windows 3.1x) apps. In effect, NT is the program Microsoft developed from the same code base that IBM used to create OS/2 (back when the two companies were still friends)

Windows NT is designed as a multi-user client/server network operating system. In fact, there are two versions of it. one for servers and one for workstation or stand-alone use (there are also versions for non-Intel platforms including PowerPC, DEC Alpha AXP and MIPS R4x00). WinNT is scalable (it can use memory up to 4 gigabytes) and can make use of systems with more than one processor

Security gets tighter

Due to its more robust networking design NT uses a tighter security model than Win95 One of NT's attractive features for corporate use is greater stability than the consumer versions of Windows and, among other things it keeps this stability by refusing to allow software to do some things. For example, its internal-security model prevents use of some high-end, DOS-level games that like to take direct control of hardware devices such as video controllers.

Also, just because a program says it's 32-bit and designed to run under Win95 doesn't mean it will also run under NT, particularly if it makes direct hardware calls or uses virtual device drivers (VxDs) Common peripherals such as printers also need specific NT drivers to work properly A printer with only Windows 3.1x or Windows 95 drivers, for example can't be installed under NT

In order to get NT 4.0 out the door this year, Microsoft decided not to include Plug and Play or power-management schemes found in Windows 95 They may appear in the version of NT currently dubbed "Cairo" which should arrive some time in 1997 or 1998

Hanging separately

On the up side of NT's stability mania is the ability to run programs in their own memory space neatly isolating them from other applications, so that if a program is flawed (or simply doesn't behave well under NT) its demise doesn't bring down the whole system

Unlike Windows 95 which will run well enough (albeit slowly) with 16 MB of RAM on a 486-based system and is happier on a Pentium-based computer with 32 MB, trying to run Windows NT productively on anything less than a Pentium Pro processor with 32 MB of RAM may lead to much finger-tapping while you wait for results NT is even happier with double that amount of memory

Microsoft
WINDOWS NT
SERVER
Version 4.0

Yes I know that Microsoft says both systems will run with less memory and on less robust processors than I've mentioned here (the official minimum for NT is a 486-based system with 12 MB of RAM and 108 MB of free disk space with double everything recommended) but there is a significant difference in performance between the minimum system requirements, the recommended system requirements and what really works well

I've been running both NT 4.0 and Win95 and it has become clear to me that the one I'd choose would all other things being equal be determined by the type of PC processor I had. Through a variety of tests I've confirmed reports that if a 200 MHz Pentium were sitting next to a 200 MHz Pentium Pro and both were running NT, the Pro-based system would blow the Pentium away It would also have an edge if you were running Win95 and mostly 32-bit, Win95-specific applications.

By the same comparison, if both were running Win95 together with a large number of 16-bit, Win3.1x applications, the Pentium would be slightly more productive than the Pro.

Will you want NT? Who better to quote than Microsoft CEO Bill Gates? "If you don't know what you need NT for, then you probably don't need it" ◆

New WinNT a bit quirky and demanding

• • By ALAN ZISMAN • •

While it's estimated that Windows 95 will sell an estimated 40 million copies this year, most big-business computer users (or at least the company's Information Technology departments) have avoided upgrading. Many have been waiting for a new version of Windows NT Microsoft's operating system that comes in two versions a network server version aimed at competing with Novell Netware running local area networks (LANs), and a workstation version, aimed at individual users

Since its release in 1992 NT has boasted industrial-strength stability, along with US government-certified security The first releases, however, were slow required lots of RAM and drive space (at a time when both were much more expensive than they are now), and had few applications that really took advantage of them.

Microsoft has recently released its new version of NT version 4.0—much more quietly than last summer's $100 million Windows 95 launch The biggest news is a virtual clone of the Windows 95 interface, with Start button Taskbar shortcuts, Explorer and all There's also a performance tune-up—NT Server, for instance, has been reported to be up to 40 per cent faster than the previous version

Familiar and surprising

While I found the interface comfortingly familiar, there were also some pleasant surprises, starting with the installation. The multitasking is much more stable than Windows 95's, and the Setup program uses it nicely In the middle of the install, I needed to format a diskette—the installation needs to create three floppies from which to reboot. While the disk was being formatted, however, the Setup program continued copying files from the CD to the hard drive, barely missing a beat. Try that under Win95!

The NTFS file system is fast and solid, and avoids the wasted space and excess fragmentation you get with the old DOS/Windows FAT file system on big new hard drives.

But can I recommend NT 4.0 for home or small office use? Not necessarily

To begin with, virtually all current computers will need a boost in order to run NT 4.0 Twelve MB of RAM is the minimum requirement—just like 4 MB is the minimum for Windows 95 Ever try to run Win95 on a 4 MB machine? Don't bother

Sixteen MB for NT is sort of like 8 MB for Win95 barely adequate. For good performance, you probably want 32 MB or so (my test machine was a nice Pentium 166 with 64 MB, on loan from Coquitlam, BC's Faronics Computers)

You can run WinNT on a 486 but probably want a fast Pentium Even better would be a Pentium Pro—while Windows 95 slows a Pentium-Pro down, a fully 32-bit operating system like NT 4.0 lets a Pro really zip along.

Strike two

WinNT comes with another strike against it. it isn't as clever as Win 95 at recognizing your hardware (although it did correctly set up the video card, CD-ROM and modem on the Faronics machine) There are also simply fewer drivers available for miscellaneous hardware and with a smaller market expected, manufacturers are in less of a hurry to write new drivers

NT 4.0 can't use Windows 95 drivers, and can't even use older NT 3.5-style drivers. And unlike Win95, you can't use your old DOS drivers in a pinch. You may simply have to give up on running some of your hardware, at least for now

Your 32-bit Windows 95 applications should (mostly) run fine but forget about your utilities. Don't try the DOS or Win95 versions of Norton Utilities if you value your data. Most DOS applications and older 16-bit Windows applications will run fine but you'll need to plan on booting to DOS to run DOS games that talk directly to your hardware.

Power hungry

Got a laptop? NT lacks Advanced Power Management, so sit back and watch your battery drain! Also while I can plug PC Cards in (or remove them) while my Windows 95 notebook is running don't even think of doing that with NT

Another thing—NT Workstation costs about three times as much as the Windows 95 upgrade version If you have to ask how much the Server version costs, you probably can't afford it.

My recommendation? If you play DOS games, use a notebook, or rely on any hardware that doesn't have NT 4.0 drivers (check the compatibility list at http:// www.microsoft.com to be sure), go (or stick) with Windows 95 If you're buying a new machine anyway and are prepared to install plenty of RAM—especially if you want a Pentium-Pro—and if you want to work primarily with 32-bit Windows applications, you'll enjoy working with NT 4.0's interface, and will appreciate its stability and multitasking ◆

INFO BOX

Windows NT workstation 4.0, from Microsoft. $449 ($209 upgrade).

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Women are forging cyberspace connections despite opposition

• • By BRANDI JASMINE • •

Women in cyberspace know once gender gets out in the open, the same old ugly stereotypes rear their heads Women still comprise less than 30 per cent of online participants in most reputable surveys (29 3 per cent according to the Graphic Visualization & Usability Center) a figure that dips below 10 per cent in many areas especially in BBS communities and in the rough and tumble Usenet

Are there barriers preventing women from accessing computers? Most women agree that there are Since early childhood most women are educated away from computers and math into social sciences so the fundamental tool of the Internet is alien to them Games are a vital onramp to computer learning yet most children's computer games and Internet Web sites are clearly designed to appeal to boys

Games for girls?

Her Interactive is one company trying to widen the market for girls computer games, starting with a controversial but successful game that featured the adventures of high-school students for the summer Her Interactive is now working on a CD action/adventure game based on the popular Nancy Drew mystery novels.

Girl Games is another company whose goal is to encourage girls to explore cutting-edge technology, and provide them with meaningful computer experiences that will prepare them for the demands of a technologically advanced future

Both companies have faced criticism from feminists that their games pander to sexist role-typing (both offer games that focus on physical appearance and social role-playing) but the critique may be short sighted. In the final analysis most boys games follow narrow rigid roles as well—but both perform the subtle but important task of drawing children into daily interaction with computers

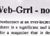
Rife with bitterness

Games are not the only place in cyberspace where women encounter barriers to entry Software for the Internet is increasingly user-friendly but does not take into account cognitive differences between men and women Certain areas of the Internet particularly the Usenet are rife with often bitter debate something many women find threatening

Always room for the adventurous

Women on the Web have felt disenfranchised until very recently Those who do venture forth into this uncharted territory tend to be adventurous entrepreneurs

"Small business is fuelling the economy across North America" explains publisher Bruce Holman "And women are starting small businesses at an ever-increasing rate Thus, there is a significant and immediate need for a magazine that is designed to provide information to women in small business."



Web-Grrl - noun

The straightforward design of *engender* is largely free of the frilly fluff and filler that accompanies most "designed for women" computer products although there are some concessions to tradition in editorial A business horoscope feminist book reviews, and inexplicably a children's story round out the offerings for April The site seems to suffer from underfunding and has not been updated in some time but it has the potential to offer resources to Canadian women who are entering the small office/home office

continued on page 28

INFO BOX

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Rough-and-tough notebooks hit the streets—literally

Panasonic
CF-25

• • Compiled by KEVIN LINFIELD • •

anasonic has released what it calls a heavy-duty off-road" notebook computer. The CF-25 was esigned to withstand the worst possible work ng conditions and features a magnesium-alloy uter shell, a rubber O-ring seal and internal ampers to protect the LCD. Panasonic claims at it can handle three-foot drops onto a concrete surface and is dust and water resistant. The F-25 has a suggested retail price of less than 6,000. Visit http://www.panasonic.com/ for ore information.

Not to be outdone, Stealth Computer orporation has released "NotebookWarrier," tough notebook PC that can also withstand three-foot drop and is sealed to withstand irt, oil, grime, rain, salt, fog, and temperature xtremes. Prices for the NotebookWarrier tart at US$5,995. For more information visit ttp://www.stealth.ca/

ot new Web sites

Rolling Stone magazine is now on the nternet. Check out all of the information, ews, reviews, photos and sound samples at ttp://www.rollingstone.com/

The Web site of Veterans Affairs Canada has ots of information about Canada's heritage, ilitary medals and decorations, campaigns, emorials, books of remembrance and iaries from all of Canada's excursions. Go to ttp://www.vac-acc.gc.ca/ to check it out.

The Body Shop's new Web page http://www.thebodyshop.ca) features skin- nd hair-care tips, product news, environmental and human-rights issues, lesson plans or teachers and children's activities.

et organized, MacHeads

Claris is now shipping *Claris Organizer 2.0* for the Macintosh. This all-in-one personal information manager (PIM) has an estimat ed retail price of $99 and now features e-mail nd Web links. Contact Claris at 1-800-361- 075 for more details.

ly me!

Microsoft has released a version of its popu ar *Flight Simulator* for their Windows 95 oper ting system. New features include two new irplanes (Extra 300S and Boeing 737-400) ew cities and a multimedia pilot's help. Retail rice is about $79.95. For more information, isit http://www.microsoft.com/

E-mail help for toner woes

If you need assistance with your toner cartridge, help is only an e-mail away. Image Control has introduced a free, fill-in-the- lanks way for laser-printer, plain-paper-fax nd small-copier users to resolve problems. imply go to the Image Control Web page http://www.image-control.com) fill out the form and you will be e-mailed a response.

Zipping along

Epson is extending the mail-in rebate program for its 100 MB Zip drive until December 31. The rebate offers consumers a choice of three Zip disks or a US$50 cash rebate. The offer applies to both Epson's parallel port and SCSI Zip drives. Visit http://www.epson.com/ for more details.

Oh, reeeeeeeeeeally!

You've seen him in the movies, now he can grace your computer screen. The *Ace Ventura* CD-ROM has been released by 7th Level and Morgan Creek featuring three huge cases that will take you to the arctic of Alaska. Available for both PC and Mac, the suggested retail price is US$39.99. More information can be found at http://www.7thlevel.com/ ◆

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Planning the "TECHNOMAD TOUR"

ou can't take it with you, goes the old saying. The older you get, though, the less attention you pay to old sayings, right? So this "digital cyclist" is going to take most of it with him, and then some. If you've ever wondered how much technology could be taken on the (cycling) road, read on

▪ ▪ By ALAN THWAITS ▪ ▪

The idea's a simple one What better way to test the possibilities of wireless communication and mobile computing technologies than by using these tools to support a substantial cycling tour? Bicycle touring means using minimal luggage space enduring exposure to the elements and journeying to out-of-the way places. A test of mobile-computing and wireless-communication tools in such an environment seems a great way to explore issues that affect road warriors everywhere

Here's the plan The TechNomad Tour is scheduled for June of 1997 Sponsored by *Canada Computes!* it will first take me from Toronto to Montreal, where I'll visit the offices of our sister publication, *Québec Micro!* Then the road goes south into New York State and along the western shoreline of Lake Champlain. I'll turn west into the Adirondack Mountains cycle through the Finger Lakes district and pedal home via Niagara Falls and the Niagara Peninsula. With a total distance of approximately 2,000 kilometers, that'll mean about three weeks of riding.

You can do it, too

The tools to be used on the tour will be up-to-the-minute but not the kind of things available only to gearheads and rocket scientists—the idea is, after all, to learn some *real world* lessons. The core technology will of course be a bicycle—in this case my trusty 1991 Miyata 1000LT outfitted in serious touring rig.

The heart of the silicon system will be a Psion 3c 2 MB model palmtop computer (complete with backlit screen for making notes at day's end) supplied by Lloyd Wasser of Widget Software Campbell Barr of Bell Mobility's Eaton Centre store will be supplying a Motorola MicroTAC Elite cellular phone a Portable Cellular Connection Interface (to connect the phone to the Psion) and airtime

Over the next few months I'll be working with Ted Knight and his project management team at Kodak Canada to get a Kodak DC-50 digital camera working with the Psion And Darrell Tenter of Keep It Simple Systems in Helena Montana has kindly offered to supply the TechNomad Tour with a Mercury II solar panel unit for evaluation purposes

The result? A "self-powered platform with remote access capabilities," as the techies might say to be tested on the byways of southern Ontario urban Quebec, and in the mountain and lake districts of New York. I'll be writing articles and taking photos while on the tour and filing them to this publication and to my own Web site.

continued on page 28

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Planning the ...

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Road testing

The TechNomad Tour will be a test for the equipment as well as for the rider Will all the hardware and software work together reliably? What will cellular access be like in the Adirondacks? How will the tools be affected by vibration caused by being on the road six to eight hours each day? What about the rain that's the inevitable companion of touring cyclists?

Stay tuned as these and other issues are explored in upcoming articles Better still become part of the TechNomad Tour by e-mailing me at praxcomm@idirect.com and telling me (a) what you think of the idea and (b) what further resources you can suggest for the tour. I'll be writing an update of the planning for the TechNomad Tour in the April issue and a full account of the ride in the August issue.

Between now and then, there'll be lots to do, including route research training, and testing of the tools. There's always room for ideas—perhaps a Global Positioning Satellite unit to keep me from getting lost? Maybe a simple motion detector so the *bike* doesn't get lost? And I definitely think I'll need to write a software app for the Pilot just to keep track of all the details!

It's going to be a very busy winter, folks—hardware testing, software setup, some time dedicated to getting in shape, and lots *and lots* of time spent with those maps! I'll keep you posted! ◆

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Women are forging ...

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(SOHO) market in large numbers.

One such woman is Fiona K. Fara, who has a word-processing and office-services business that she runs from home. "It went from a part-time business to a full-time one since July 1995 when I was laid off from my full-time job I'm a SOHO who services other SOHOs primarily those with no computer experience or no time"

During the past year—when she began conducting business full time—Fara client base has doubled. It's still not enough to fill up a nine-to-five day but she says "I'm three-quarters of the way there They say that it usually takes three years to have your business running the way you want but I'm confident that I'll be there in two"

Nice question, knucklehead

Fara also says that she has encountered no serious obstacles due to her gender "The only comments I get are like when a client calls me at 6:00 PM and finds I'm still working He often asks, "Don't you ever stop working? When do you find time for doing the housework or making dinner for you and your husband?"

Recently mainstream publications and media for women have also joined the cyberspace act in order to draw their audiences into the Web *Chatelaine* magazine for example has recently debuted a Web site that it hopes will attract more women to cyberspace The top priority of the site is to help women discover the Internet

"*Chatelaine Connects* offers practical useful content to both the new and experienced user eager to make the most of the Web" says online editor Nancy DeHart "Our research confirms that Canadian women want to hear from each other" ◆

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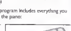

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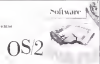
OS/2 Warp 4: In with the new!

With surprisingly little fanfare, IBM released its latest and greatest version of OS/2 on September 25th.

• • By KEVIN LINFIELD • •

Code named Merlin OS/2 Warp Version 4 is the newest member of the Warp Connect family and as such it is aimed at connected users (including those of us who use it for our Internet access) IBM calls it the universal network client as it allows you to connect to virtually any server or peer machine



In addition to numerous minor enhancements Warp 4 features the integration of formerly separate programs additional device drivers, an updated BonusPak an Application Sampler CD-ROM and an revamped Graphical User Interface (GUI) Overall, Warp 4 is the most substantial OS/2 upgrade since the first 32 bit version was released back in 1992

So, what's new?

The biggest and best new feature (quite possibly the oft mentioned "killer application") is the integrated speech navigation and dictation. Formerly a separate product costing hundreds of dollars IBM has incorporated its Voice Type Navigation and Dictation into OS/2 working with any microphone and supported 16-bit Sound Blaster-compatible sound card

Be prepared to talk in discrete words—I talk fast by nature and in order to get Dictation to work I had to slow down and enunciate Once you train it (or it trains you!) though you will be truly amazed.

Other programs are also integrated into the operating system including the Multimedia Viewer (from OS/2 Warp's BonusPak) now built into the WorkPlace Shell Simply double-clicking on any graphic sound, or movie file will immediately view or play that file

The new WarpCenter (derived from *Lotus SmartSuite*'s SmartCenter tool) now graces the top of your screen, allowing you to launch applications and view various aspects of your system's resources with a single click of a mouse button.

Although IBM's *Web Explorer* is still present Netscape surprised the world late last summer with the release of *Netscape Navigator for OS/2* Once connected to the Internet, you can download the latest version of *Netscape for OS/2* by simply double clicking on an icon on your Desktop

The Desktop has been enhanced with an updated GUI (featuring more colour prettier icons and sound schemes) and TrueType font support is now included. Forsaking better Windows support OS/2 is the first operating system to integrate Sun Microsystem's Java language and a Java Development Kit has been included to modify and compile Java applications without requiring a Java-enabled Web browser

Playing catch-up with Windows 95 OS/2 now features Plug and Play for ISA devices (a feature I still refer to as "Plug and Pray") and as a bonus for running Windows applications it now incorporates Win 32s 1 25a compatibility Sorry folks OS/2 does not (and probably never will) run Windows 95 programs

At what cost?

All these added goodies come at a price—the hardware requirements for this version of OS/2 have gone up drastically A 486 with 12 MB of RAM is the bare minimum you would want to run the base operating system Once you add the networking support and the software speech engine you will need a Pentium 120 MHz processor with at least 32 MB of RAM

For people with brand new machines, this may not pose a problem For those of

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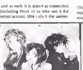

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The essential PC gatekeeper in an updatable uniform

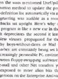
By MARC DACEY

At last summer's Comdex computer trade show in Toronto the nice people from Symantec were trying to rouse a roomful of jaded computer journalists to the gee-whiz attributes of their soon-to-be released *Norton Anti-Virus Version 2.0* program for Windows 95. Alas, as with Symantec's flagship product, the estimable *Norton Utilities NAV* in any flavour is a good and venerable product that works very well most of the time and has been around forever. A new iteration? Nothing to get excited about.

That didn't stop the Symantec brass: It'll have "Striker" they said, a fabulous new virus-detection routine that executes those stealthy and polysyllabic polymorphic viruses in what they called a "virtual PC" basically a "decontamination room" in which even the most disguised viral programs would give themselves away by trying to nuke a phantom hard drive.

It'll have fixes for the latest *Word Macro* viruses, they said and a "Repair Wizard" that will make fixing infected PCs a one-button no-brainer for technophobes.

NAV 2.0 they said, was backed by the vast Symantec Anti-Virus Research Centre arguably the best virus smashers in the biz. Very nice, we agreed and went back to sleep.



Norton's Antivirus 2.0

Wake up!

Then the suits mentioned LiveUpdate the one-button method to update the program's virus-definition list automatically via modem. The grunting was audible as a roomful of tech hacks sat upright. Here's why: an anti-virus program is like a new car in the sense that it depreciates the second it leaves the lot. New viruses propagated for the most part by boys-without-dates or Mad Genius wanna-bes are constantly being set loose in an increasingly permeable PC environment.

Between floppy-swapping software piracy and e-mail and other Net transfers your PC gets exposed to more alien bits than the changeroom on the Enterprise. Anti-viral software is essential particularly for those who cruise the Net. Given however that any anti-virus program is only as good as its latest "list of suspects," the excellent "LiveUpdate" feature is probably the best reason to buy ($69.95) or update ($29.95) to *NAV 2.0*.

Of course virus definitions are freely available to download from most anti-virus software makers. It's just that LiveUpdate makes things so much easier, especially for those who are unsure what FTP stands for.

A fast dresser

Symantec recommends a monthly update of its virus definitions. I couldn't wait that long so I tried a "real world" test, using a fast modem on a Monday morning. Hitting the "LiveUpdate" button, dialling up the Symantec server downloading a virus update file and watching it self-install took just under four minutes. A quick restart of the computer and the system was ready to boldly go onto the Web once more.

Aside from the features already mentioned

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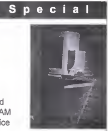

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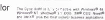

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OS/2 Warp ...

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us with machines further from the cutting edge however in order to take advantages of what Warp 4 has to offer, the path involves some major hardware updates. Running it on my 486 DX/66 with 16 MB of RAM is okay but I think that it is almost time for me to get out my wallet and do a serious hardware upgrade.

OS/2's installation routine has often been a source of headaches, and IBM still hasn't worked out all of the bugs. On both machines on which I installed Warp 4 I was not able to complete the installation until I turned off automatic hardware detection (ALT-F1, then F6 for those of you who are having problems).

Expect the average install (including a good part of the BonusPak) to take up over 200 MB of hard disk space.

Warp 4 is in retail stores now and the upgrade version should go for about $160. Note that there will be no OS/2 for Windows (it will only be available with built-in Win-OS/2) but the upgrade will install over any prior version of OS/2 (except Warp Server).

For more information on OS/2 Warp Version 4 check out IBM's Web page at http://www.software.ibm.com/ ◆

The essential PC ...

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NAV 2.0 is exhaustively comprehensive (it neutralizes over 8,000 known viruses, and provides warnings when it detects "virus-like behaviour" of previously unknown viruses) and runs mostly in the background working primarily through its "Auto-Protect" routine that nabs boot viruses at start-up.

Anti-viral scans for your entire hard drive can be scheduled to run automatically hourly, daily or weekly and the straightforward manual included with the software disks can help you devise a virus scanning routine by determining your likelihood of "infection" based on how often, for example, you load other peoples floppies into your PC.

Installation is painless but not completely. *NAV 2.0* is as fat as most of today's software demanding a spacious 12 MB of drive space. It's worth it however: unlike its competitors, such as *McAfee Virus Scan 95* and *PC-cillin 95*, *NAV 2.0* not only detects and removes the highest percentage of current viruses, but has the best record in repairing damaged files and "inoculating" them against subsequent infections. In terms of efficacy and ease-of-use this version of *Norton Anti-Virus* not only continues Semantec's fine record in programs of this type but rates as a excellent upgrade and must be considered a vital part of any Windows 95 user's utilities. ◆

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Mac has the jump on PCs in A/V computers

• • By MYLES WHITE • •

If you're searching for a PC, and you're looking for the ultimate audio/video dream machine that will let you converge computer television and radio into one box you'll have to wait a while longer—unless you're prepared to have it custom built or opt for a Mac instead.

For several years now it has been possible to retrofit a PC with a variety of TV grabber boards some with (most without) a built in tuner Aside from some early models of the IBM Anthea however there aren't any mainstream models available off the shelf with these toys—yet.

This is due to change next spring when Toshiba Canada gets around to offering the Infinia line already released in the United States this fall Featuring sleek ultramodern styling and black components the Infinia has been dazzling US reviewers with its built in TV tuner and FM radio console controls

Toshiba Canada general manager Robert Grossman tells us he was concerned that there wouldn't be enough of the products available to supply demand, however Rather than annoy customers he decided to hold off until March or April, when the second generation, this time equipped with Digital Video Disk player is ready to ship

That leaves this fall's everything-in-a-box market to Apple, with its Macintosh Performa 6320CD Although most offerings in the Performa line have a variety of optional TV add-on products the 6320CD is the only model that comes with a TV tuner as part of its standard equipment Basic features of the system include Motorola 120 MHz 603e processor on a 40 MHz 64-bit bus 256 KB cache and 16 MB of standard FPM DRAM (expandable to 64 MB) It has a 1 2 GB SCSI-based hard drive single 1 4 MB floppy (which will read, write and format Mac Windows, MS-DOS, OS/2, and ProDOS disks).

continued on page 33

INFO BOX

For more information, contact Apple Canada at 1-800-665-2775 ext 450, faxback 1-800-263-3394, or visit them online at http://prod02.apple.com/productinfo/datasheets/dt/performa6320cd.html

Cordless Mouse Pen a clever little device

• • By LYNN GREINER • •

Computer pointing devices are many and varied. I've tried a bunch over the years, but the one that's continued to grace my home computer is a little gadget called the Mouse Pen.

The Mouse Pen is shaped like a fat pen with a mouse ball instead of a nib and mouse buttons on the side, exactly where your fingers fall when you're holding a pen. Originally developed by a company called Appoint, which faded into the sunset a couple of years ago the Mouse Pen can be used on a mouse pad or the arm of a chair, or on your knee—or even on the cat, if it'll sit still long enough

The ball is seemingly unstoppable and because you hold it like a pen fine control of cursor movement is easier than with a standard mouse

I was afraid the product had disappeared with the company so was delighted to find that Fellowes better known for its stationery and storage products, had purchased Appoint and all of its products and was developing them From that development has come the Cordless Mouse Pen

As the name suggests the Cordless Mouse Pen's only wire connection is to its battery charger—and once you charge the little beast, its NiMH battery is good for a week or two It talks to your computer through an infrared receiver attached to a serial or PS/2 port (both adapters are included).

The receiver has a fairly wide angle of view (45 degrees and up to eight feet away)—I keep it snuggled under the monitor, to the left of the keyboard; my Fellowes contact keeps hers on a shelf above the machine Either way as long as the Mouse Pen's transmitter, a little light near its top, is pointed roughly at the receiver, it'll be seen. You can see if the signals are arriving by a red activity light on the receiver.

Careful when you wake the mouse!

To save power, the pen shuts down when idle, and is reactivated by a mouse click Unless you're continually moving the cursor it's best to leave it where a click won't unexpectedly

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Mac has the jump ...

continued from page 32

and a quad-speed CD-ROM drive.

500 channels, nothing to watch?

If watching TV on your Mac bores you, the Performa 6320CD also comes with a 28.8 Kbps modem for hitting the Internet (14.4 Kbps fax) and software to have it double as a speakerphone and digital answering machine. There's a 16-bit stereo sound system with built-in speaker, output port, input port, and microphone and a front-mounted headphone jack and volume control.

If you want to use your Performa to watch, then manipulate television video it includes composite and S-video inputs for viewing and capture. The integrated TV tuner can be attached to cable or TV antenna and you also get an infrared remote control.

Unlike many Apple models the $2 299 estimated street price for the Performa 6320CD includes a 15-inch monitor (640 by 480 resolution up to 32 000-plus colours from its built-in video adapter with 1 MB of DRAM). The keyboard and mouse are also included in the price. According to an Apple Canada spokesperson, "with the price cuts, they're being swept up quickly." ◆

Cordless Mouse Pen ...

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activate something. I startled myself a couple of times in the beginning, when I'd left the cursor sitting on top of an icon or control, and the click to reactivate the mouse triggered an action.

I found the buttons were somewhat less responsive than those on my well used, corded Mouse Pen and double clicking was a bit tougher. I suspect it'll wear to the same comfy feel in time. The ball is smooth rolling, and may be removed for cleaning by simply twisting off its retaining ring. Mind you, in several years of extensive use I've never had to clean the ball in my old Mouse Pen, so I doubt the cordless unit will need much attention either.

It uses Microsoft Mouse drivers quite happily (even the IntelliPoint drivers) but comes with a diskette of special Fellowes drivers for Windows 3.x, Windows 95 and OS/2 just in case. There's also a clip for attaching the receiver to a notebook computer.

As an added bonus, using a Mouse Pen is much more natural than using a standard mouse, so repetitive strain injuries (RSIs) may be prevented or alleviated. Certainly, my wrists never get tired or tingly when I'm using the device, while they may with a conventional rodent (this is not an advertised feature, just something I've observed).

List price for the little beast is a bit steep, at around $200 but it's well worth it. This is a pointing device this'll serve you well. For more information, contact Fellowes at (905) 475-6320 ◆

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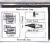

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Stylus 500:

Low-cost colour in a compact package

• • By MYLES WHITE • •

When PC Magazine awarded the Epson Stylus 500 its Editor's Choice award (November 5/96), the reviewer called it a "show stopper," and little I've seen from my tests of this under-$400 four-colour ink printer leads me to disagree.

Any time you discuss the cost of a liquid-ink printer—particularly a colour model—one of the factors you have to consider is that as a class, these printers have the highest cost per page of any technology other than thermal wax transfer or dye sublimation. As a member of this class however, Epson's piezoelectric head technology (which extends head life by almost literally shaking the ink out of the head instead of blowing it, and using far less heat than standard thermal bubble jets) manages to keep the cost at the extreme low end of the scale.

At 15 per cent coverage in colour *PC Mag* reported the Stylus 500 at 9 cents per page, compared to as high as 23 cents for some models

In its price range, the Stylus 500 also has the highest available resolution (720 by 720 dots per inch) and, while earlier Stylus models made it practically mandatory that you use special paper to get acceptable quality at this resolution, improvements now allow you to use plain paper (although if you do use Epson's special paper the image quality does improve) Other acceptable stock includes transparencies and iron-on transfer paper.

Media loading is from the top which cuts down on the amount of real estate the printer uses I've got mine sitting propped up on some old disk cabinets and with its catch tray extended for 8 5 by 11-inch stock, it sticks out only 19 inches from the wall (add another 5 inches if you want to catch 14-inch paper).

Those old plastic cabinets, stacked on top of each other, aren't all that stable, so one of the things I watched carefully was the amount of vibration the printer produced. Most ink-jet models I've seen in the past tended to emulate mini-earthquakes as their heads whacked back and forth but the Stylus 500 while far from quiet, hasn't managed to shake itself off its precarious perch yet.

I've run a number of experimental document types through it, and the results have been almost perfect, with a couple of minor quibbles. I'm a little unhappy with the printer's paper feed mechanism because unlike an HP Deskjet 850C, for example it won't allow for a half-inch bottom margin. The smallest margin appears to be closer to five eighths of an inch (which meant changing a newsletter layout to avoid clipping the last line on each page)

Colour calibration was also interesting. Using the Corel Colour Manager with the *Corel Draw 6* suite, I was able to get a close match between my monitor output and the printer's using the 360 dpi colour driver Epson supplied but no amount of tweaking could get the 720 dpi driver to even come close Fortunately this was solvable Using the 360 dpi colour driver in both resolutions didn't seem to bother the printer and I was happy with the results Monochrome photo reproduction was excellent

Given the price for the Stylus 500 it shouldn't be surprising that it doesn't have four separate ink cartridges for yellow, magenta, cyan and black but it does offer the next best alternative—two separate cartridges—one for black and another for the other three colours

My quick conclusion? From time to time I buy the products I'm sent to evaluate This one's a keeper ◆

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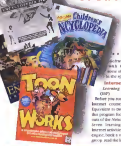

• • By SANDRA MINGAIL • •

Software shelves runneth over with CD titles galore. Here are some of the best picks for gift-giving in the spirit of 1996.

Internet Training

Learning the Internet (Corel): $30 (ESP)

Before you rush out to sign up for a pricey Internet course, take a look at this CD. Equivalent to two days of classroom training, this program focuses on learning the ins and outs of the *Netscape Navigator* Web browser. Seven learning modules cover common Internet activities such as how to use a search engine, book a vacation, subscribe to a newsgroup, read the latest news headlines, and use the bookmark and history browser features.

Each section presents an audio overview supported with a short onscreen demo. Additional tips and tricks provide handy info for Net travellers. Unfortunately no print option is provided. Screens are clearly laid out and easy to navigate. A few hours with this program and Internet novices will be surfing with confidence.

Science/Reference

Dinosaur Hunter (Dorling Kindersley): $37 (ESP) for Win or Mac

Leave it to the folks at Dorling Kindersley to turn out another top-notch title. This one's for die-hard dinosaur fanatics. Enter the virtual dinosaur museum, then navigate through corridors and rooms in search of dino skeletons.

Stunning 3-D graphics and animations are enriched with eerie sound effects. An onscreen navigator is always close at hand to provide quick links to an index, help functions and museum floorplans. Pinpoint fossil-find sites from around the world, read about famous dinosaur hunters or discover facts about your favourite prehistoric friend. Or sit back and take a guided tour to learn how dinosaurs lived, ate and evolved.

A built-in link to the publisher's Dino Online Web site connects would-be hunters to the latest global dino resources and trivia. Don't forget to drop by the Museum Store to shop 'til you drop for dinosaur desktop wallpaper, calendars or writing paper. Save these to disk as a souvenir of your visit.

continued on page 37

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Great CD-ROM stocking stuffers...

continued from page 35

Creativity

Toonworks for Kids (Microforum Inc.) $55 (ESP) for Win

Forget Saturday morning cartoons this CD is lots more fun Kids from 6 to 96 will be pumping out hilarious cartoon creations in no time at all Pick a nose some ears a ridiculous smile and construct your own cartoon creature *Toonworks* is packed with hundreds of clip-art images, plus 100 professionally designed cartoon characters

Once your character is created the real fun begins Stretch shrink twirl or taper it This program serves up enough special effects to keep kids entranced for hours Try a template for a greeting card, calendar poster, placemat, or colouring book Then print the finished product Onscreen help buttons provide text as well as mini-demos of program features Set the program to Big Kids or Munchkin Mode (a simplified presentation for wee ones) The sound effects are a hoot A totally entertaining title

Language Arts

Poetry in a Nutshell, A Multimedia Exploration of the Elements of Poetry (Irwin Publishing) $80 (ESP) for Win or Mac

Aimed at the high-school student or teacher this program presents a comprehensive yet somewhat technical look at poetry

The opening menu presents three separate sections The Spirit of Poetry which identifies poetic genres such as narrative sonnet haiku and concrete The Sound of Poetry which encompasses alliteration onomatopoeia assonance and syllabication and The Figures of Poetry which covers simile metaphor hyperbole and comparison

An onscreen index allows users to quickly navigate to their section of interest All explanations are accompanied with audio- and text-supported examples Several of the readings seemed to lack dramatic expression however The teacher's guide offers notes related to onscreen poems as well as student-activity sheets designed to be used with the CD

General Reference

Encarta 97 Deluxe (Microsoft) $100 (ESP) for Win 95 or 3 1 $70 ("regular version")

Not to be outdone Microsoft seems to have packed everything but the kitchen sink into this two-CD set Aside from the pain of juggling multiple disks the basic interface remains slick and sophisticated.

This edition of the multimedia encyclopedia includes more than 6 000 new or revised articles 35 new videos and a whopping 6,000 new photos. Twenty multimedia collages—only available under Win95—offer hyperlinked photos, essays, and sounds grouped by topics such as architecture television, or the Olympics, are nice, but not totally necessary

The biggest change is the online links incorporated from directly within *Encarta* Deluxe owners can download monthly article updates from the *Encarta* Web site then view them from within the program Many articles include Web links with additional topic information

For the truly fact hungry—and an additional fee—*Encarta* Online Library serves up access to magazines newspapers and resources around the clock For the Internet challenged the program offers a mini-tutorial on surfing the World Wide Web

Ultimate Children's Encyclopedia (The Learning Company) $40 (ESP) for Win95 or 3 1

This is a child-friendly encyclopedia for elementary-age children that comes complete with an illustrated dictionary thesaurus book of words interactive atlas and historical timeline Easy-to-read articles are enhanced with audio explanations video clips slide shows and animations.

Zak the cool onscreen guide walks children through more than 35 000 cross-links on their fact-finding mission Visit Zak's bedroom, then click on an object to visit any one of seventeen categories Or enter a keyword search for the topic of your choice

The copy-and-paste feature helps young learners move text and graphics into their school reports. Footnotes are automatically added. America Online users receive access to Compton's *Living Encyclopedia* for info updates Stumped by an unfamiliar word? Click on the word power button for an explanation A great program to encourage independent research skills at a young age

The 1997 Canadian Encyclopedia Plus (McClelland and Stewart) $80 (ESP)

The perfect research companion for Canadian students Lots of new features rolled into one impressive well researched well produced CD The latest goodies include a French-English/English French Dictionary 3 500-event World Timeline Quicktime Virtual Reality tours and hyperlinked interactive Canadian maps. A beefed-up Canadiana Quiz is now presented in both national languages

Another plus for Canadian history fans—400 magazine articles gleaned from *Maclean's* news magazine Monthly article updates are just a click away at the *Canadian Encyclopedia Plus* Web site

Just for fun

TJ's Reel Extreme CD-Room (Graphix Zone) $40 (ESP) Win/Mac hybrid

Hosted by teen heart-throb Jonathan Jackson this totally radical title presents over 350 digital video clips from *America's Funniest Home Videos* String together your own video clip combos with the help of TJ's Story Machine or simply sit back and enjoy in lazy mode Includes a Compuserve Starter Kit for online ventures ◆

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Hey, good lookin'

• • By S.J. ROSS • •

Forget RAM and hard drives, Pentiums and laptops, motherboards and cache, because the *fastest* way to make your computer sizzle is with a library of CD-ROM cookbooks.

Julia Child
Home Cooking with Master Chefs

From Microsoft ($44 95, CD-ROM)
Conatct: 1-800-563 9048

If you blindfold us and force us to listen to a recording of a frequently-satirized high pitched voice we would instantly recognize Julia Child—that master of calorie-bursting tastebud-tempting delights In *Julia Child Home Cooking with Master Chefs* Julia teams with 16 chefs to teach us how to prepare a bevy of gorgeously tempting dishes.

Broken into segments, you can view everything from Julia introducing the chiefs (everything you always wanted to know) to 25 step-by-step gourmet cooking lessons presented by one of the chefs, to over 100 tantalizing recipes and a selection of sumptuous photographs (from creative curries to decadent desserts), to five tours through Julia's kitchen (how to work with knives cook with wine etc)

This fun informative feast for both the eyes and tummy allows you to conveniently scale menus for your party size and even provides automatic shopping lists Just make sure your CD-ROM drive is a quad- or higher speed (for all CDs that incorporate video), or the videos may appear jerky and disjointed.

New Dieter's Cook Book

From Better Homes and Garden's/General Publishing ($63 95, book and CD-ROM)
Contact. 1-800-387-0141

If Julia has you putting on the weight, then the *New Dieter's Cook Book* will help you take it off.

This handy CD-ROM and-book package (halfway through your dinner party do you really want to run to your computer to see what, exactly that missing ingredient was?), contains over 400 recipes—all accessible via both nutritional requirements and available ingredients (handy when those pesky uninvited dinner guests knock on your door). It allows you to scale recipes for up to 50 guests and print copies of the recipes (redundant considering you have the book, but handy if you are messy in the kitchen).

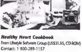
The CD also offers video clips of food preparation and cooking techniques allows you to bookmark favourite dishes and even has a musical selection that relates to the origin of the dish (and mercifully comes with an off switch).

Betty Crocker's Cookbook
75th Anniversary Edition

From Lifestyle Software Group (US$39 95, CD-ROM)
Contact. 1-800-289 1157

Do you yearn for those wonderful hardy traditional dishes mother (and it probably was mother) made? Then pull out your frilly apron pop *Betty Crocker's Cookbook* into your CD-ROM drive and get cooking With over 1,000 local and international recipes tantalizing colour photographs how-to videos and text, and with the ability to choose recipes based on what you have in your kitchen, *Betty Crocker's Cookbook* offers a wealth of ideas and flexibility

Because the features range from tips on kitchen setup and basic food-preparation techniques to a scrapbook of nostalgic film and radio clips from such classic entertainers as George Burns and Gracie Allen, *Betty Crocker's Cookbook* is designed for all ages and levels of expertise.



Healthy Heart Cookbook

From Lifestyle Software Group (US$31.95, CD-ROM)
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If your New Year's resolution is to eat smarter or

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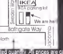

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Hey Good lookin' ...

continued from page 38

lighter then you might want to peruse the *Healthy Heart Cookbook* for 350 low-fat, low-calorie recipes.

The *Healthy Heart Cook-book* contains instructions on cooking techniques a nutritional analysis of the recipes and the usual selection of tempting photographs. Also included are handy tips for reducing fat (especially eye-opening is the comparison of traditional recipes with lighter versions) hints on healthy shopping and restaurant dining, a ranking of recipes by a variety of criteria such as cooking time a glossary of cooking terminology and ingredients, and automatic scaling of recipes to suit your party size

Healthy Heart

And, to take all the guess work out of dining, 16 sample menus are included based upon the American Heart Association's dietary guidelines.

Wine Guide

From Microsoft ($44.95 CD-ROM)
Conatct: 1 800-563-9048

The next time your waiter asks "Will you like wine with that?" be prepared to amaze and delight your friends with Microsoft's *Wine Guide* (of course you must also be prepared to shove the crystal off the table to make room for the laptop)

Oz Clark, a winner of the James Beard award (the author of *Beard on Bread* an unfortunate title) discusses how wine is produced—from harvesting to bottling—demystifies what features to look for in wine, and even provides tips on how to start a wine cellar and select a wine glass.

Clark also teams with a variety of experts to offer tasting notes on nearly 6,000 wines.

Providing a comprehensive wine selector—which delivers recommendations based on food grape rating region, and year—and the ability to create customized lists of your favorite wines whether you are dining in or dining out, be prepared to impress and inebriate your friends.

Better get a bucket?

Of course, the above CD-ROM cookbooks still require you to shop and prepare the meals. But, as TV dinners are already a part of our culture can PC dinners be far behind? ◆

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• • By ROB SLADE • •

Techies have heard the phrase "information superhighway" until they are ready to gag and any tome with those words in the title is generally to be avoided. On that topic, however, no single author has been able to produce a work that even remotely compares with Steven Miller's *Civilizing Cyberspace: Policy, Power and the Information Superhighway*. Neither dazzled by technical brilliance nor dreading the cyborg juggernaut, he provides the fruits of a working relationship with the technology: thorough research and insightful analysis.

Also in the Internet arena, *IPng and the TCP/IP Protocols* by Stephen Thomas fully, clearly and usably explains the coming changes in the TCP/IP protocols. The reasons for the changes are given, and the individual protocols are explained and diagrammed. From my perspective, the beauty of the text lies in the fact that it is suitable for almost any audience. Thomas starts without any requirement for a technical background on the part of the reader and lucidly explains concepts, uses and low-level details.

I fully expected to be able to write an amusing little review of Bruce Webster's *The Art of Ware*, since I expected it to be humorous or at least lighthearted. After all, here is the classic joke of business as a type of warfare. Webster, however, has taken the reinterpretation quite seriously and the result fully justifies his doing so. The end product is extremely sound business advice—not limited to software development.

Tell me something I don't know

A great many Windows 95 "guides" simply tell you the things you could find out with a bit of patience and exploration. The *Byte Guide to Optimizing Windows 95*, on the other hand, is written for the upgrading, rather than completely novice, user. The DOS or Windows 3.1 user who has some years of experience will want to start at a higher level and perform more advanced functions.

Java seems to be *the* topic this year, and I have found no better introduction than Cornell and Horstmann's *Core Java*. Unlike all too many other Java texts, this one does not automatically assume that you know C, C++ and object-oriented programming. That fact alone makes it a first-class choice for those budding Webmasters who want to get in on the Java game. The background and concepts behind the language are explained, as well as the necessary commands and syntax to get started. Object-orientation is presented and explained very clearly.

If you are serious about designing documents and Web pages with HTML (hypertext markup language), you *must* have Musciano and Kennedy's *HTML: The Definitive Guide*. The basics, text, rules, multimedia, links, lists, forms, tables, frames and more are all thoroughly covered, point by point and attribute by attribute. Web design is not given a separate section, but seamlessly permeates every section of the book. I can recommend this book without reservation to anyone who wants to learn HTML programming and use.

Treasure (tool) chest

Nancy Cedeno's *The Internet Tool Kit* is a lost jewel in the Internet library. Internet application clients—the tools of the title—are the face of the Internet to most users. This work explains the basic functions of ftp, telnet, mail, news, gopher, the World Wide Web and more. The author, however, has also collected basic information on a whole host of client programs, from the text-based tools of the UNIX shell accounts to the Winsock-based front ends. Where to get them, how to install them

continued on page 42

INFO BOX

Civilizing Cyberspace, by Steven E. Miller, from Addison-Wesley Publishing Co. 1996. 0-201-84760-4. US$26.85.

IPng and the TCP/IP Protocols, by Stephen A. Thomas, from Wiley. 1996. 0-471-13088-5. Can$62.95.

The Art of Ware, by Bruce F. Webster, from M&T Press/M&T Books/Henry Holt. 1996. 1-55828-396-5. Can$30.

Byte Guide to Optimizing Windows 95, by Craig Menefee & Lenny Bailes, from McGraw-Hill Ryerson/Osborne. 1996. 007-882120-7. Can$42.95.

Core Java, by Gary Cornell & Cay S. Horstmann, from Prentice Hall. 1996. 0-13-565755-5. Can$53.95.

HTML: The Definitive Guide, by Chuck Musciano & Bill Kennedy, from O'Reilly & Associates, Inc. 1996. 1-56592-175-5. Can$39.95.

The Internet Tool Kit, by Nancy Cedeno, from Sybex Computer Books. 1996. 0-7821-1688-4. US$16.99.

Running Linux, by Matt Welsh & Lar Kaufman, from O'Reilly & Associates, Inc. 1996. 1-56592-151-8. Can$42.95.

Running Linux Companion CD-ROM, by Marc Ewing, from O'Reilly & Associates, Inc. 1996. 1-56592-212-3. Can$35.95.

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• • By DAVID ROSEN • •

As any student can tell you, there are three steps to doing a school report: researching, writing, and adding the final touches. The Student Writing & Research Center is based around this three-step model and leads kids through these stages easily and effectively.

Let's say you have to write a report on the Roman Empire. A good place to start is the Compton's 25-volume encyclopedia. Under "Roman Empire" you'll find a 4 000 word article tracing the history of ancient Rome from its birth in 753 BC to its demise in AD 476. Need more about the northern peoples who invaded the Empire in the 4th and 5th centuries? Click on the "Goths" and "Huns" for additional information.

How significant is that?

Historical moments of significance are also represented in still pictures and as video clips. How did the Roman Empire fit in to the history of the world? Click on one of two timelines (one World and the other US-based) to find out.

As you collect material and start mentally designing your report, you can jot your notes down in the built-in word processor. If you're the organized type, you can avail yourself of the report outliner. Need a particular word but just can't think of it? Try the on-board thesaurus. Grammar Tips, a module within the program's Writing Center, gives you the straight goods on punctuation, capitalization, and abbreviations.

Your deadline is looming! You remember the article on the Roman Empire had a great description of Caesar. Switch back to *Compton's*, highlight the text you need, and copy it directly into your report. When you're done you'll notice that footnotes and bibliographical entries have been added and formatted automatically! Cool, huh?

Now it's time for those finishing touches. Of course, adding graphics not only makes your report look better, it can also improve your final mark. Choose from 8 000 pictures to illustrate your report. Change the font to emphasize important words or phrases. Don't forget to run the spell checker to ensure your paper doesn't have any nasty typographical errors. Then relax—you're done. ◆

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Holiday gift book ideas ...

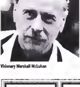
continued from page 41

and how to get started using them.

Last Christmas I was doing an emergency repair on the neighbour's machine after a friend "helped" him "upgrade" his version of DOS. This year, he wants to go Linux. When an operating system hits that level of user you *know* it has become popular. When the first edition of Welsh and Kaufman's *Running Linux* came out, it was followed closely by a number of other Linux books. Some seemed to be following the text of *Running Linux very* closely. I soon realised what was happening: the authors of the other books were sticking as closely as possible to Matt Welsh's excellent HOWTO documents. So why not get it from the source? A companion volume is available with a two-CD set containing the Red Hat Linux version. ◆

The messenger of the new media

• • By CHRISTOPHER GULY • •



Visionary Marshall McLuhan

Dressed in olive-colored pants and a black shirt with an orange and yellow scarf around his neck Derrick de Kerckhove looks the part of a dandified and worldly man of traditional culture and taste When he opens his mouth, though out comes a machine gun-like delivery of ideas about the new techno culture

On the outside the 52-year-old Belgian born director of The McLuhan Program in Culture and Technology at the University of Toronto could pass as the progeny of some computer his wide eyes move quickly his neck elongates to emphasize a point On the inside however, McLuhan's former translator and co-author is as much a communication evangelist for today as his mentor was several decades ago

For those Luddites straggling behind new media, de Kerckhove is the baptist. de Kerckhove, who holds doctorates in French language and literature from the U of T and the sociology of art (with a focus on Greek tragedy and the alphabet) from the French University of Tours recently preached his message of the new media at an Ottawa conference

GULY: You often speak of interactiviy Does that describe the culture in which we live?

de KERCKHOVE: One that includes all of them really When we talk about interactivity, I don't think of a machine—although machines will specialize much faster in operations that are already done by computer We will be able to use machines to analyze data in 24 000 different ways and then compare inter-compare the data in a single nanosecond Interactivity connects bodies to each other via a machine.

GULY: Is the medium still the message?

de KERCKHOVE: It will always be the message in this case more so because the medium has become the ground of our culture Look at that weird place called the Internet Figures emerge from it like electronic volcanos on your screen

continued on page 45

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The messanger...

continued from page 43

GULY: Is convergence going to become more of a reality in the near future?

de KERCKHOVE: Look, in the old days with writing we would desensorialize communication into a string of letters. Now with multimedia we re-sensorialize speech where we can have our cake and eat it too. Plus we have published in both a contextual archival form as well as offered information in real time. Data can be reprocessed and redistributed every which way now. We've never had anything like that.

GULY: Did Marshall McLuhan envision any of this happening?

de KERCKHOVE: Oh sure he did. He talked about "outering" our nervous system into little contraptions like radio etc. He said it wouldn't be long before we are outering our consciousness. When many bodies begin to function together a new form of consciousness is likely to emerge—like connectivity.

GULY: Last year you released *The Skin of Culture: Investigating the New Electronic Reality*. Why do you still write books?

de KERCKHOVE: You have to slow down and leave something behind. It's nice to know that someone is actually poring over something you've written. You can't get that on the Internet. You can't read on the Internet.

GULY: How often are you on the Net?

de KERCKHOVE: A few hours a week since I seem to always be on a plane going somewhere, but I spend between four and five hours a day writing in front of a computer screen. With the Internet, what's shifted is communication from internal personal individual private information to a connected information-processing system that we're seeing with chatlines and groupware. Although they're still in primitive forms they're going to become an effective way of collaborating among humans. A lot of people play down the fact that "only" 844,000 out of 10.6 million Canadian households [according to a recent Statistics Canada study] were hooked up to the Internet. Well add office users and you get about 2 to 2.5 million Canadians on the Net. Out of 30 million people that's a bloody good number. It's fantastic!

GULY: So what's your message about the new media?

de KERCKHOVE: We're experiencing a digitization of our culture. Digitization allows everything to be re-made not replayed.

Consider when you learn how to read and write: that's an individual thing and information is processed internally. Then with television and radio information is processed for you outside your body. With computers there's a sense of mind-in, mind-out going on. If the medium is the message, the user is the content. ◆

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Modems: A BASIC DESCRIPTION

• • By LYNN GREINER • •

Whether you're surfing the Web, browsing CompuServe, sending a fax or just connecting to the office remotely, there are two constants: you're probably using telephone lines and you're probably using a modem.

A modem is a device that sits between your computer and the telephone line, translating digital computer signals (which only have two states: on or off) into analogue signals (continuous waves of various sizes and shapes) the phone system can understand, and translating the analogue signals back into digital for the receiving computer. It's become a word now, but "modem" originally was an acronym for the device's electronic function: it's a MOdulator-DEModulator.

Modems come in many sizes and shapes, from circuit cards that fit inside a desktop PC to external boxes and PC Cards. Fax machines contain specialized modems. Even the devices that attach users to Internet services over cable TV lines are called modems. For now, though, we'll concentrate on the ones that hook up to standard telephone lines.

A baud y tale

During the Stone Age (the mid 1980s) modems cost $800 for a "blazingly fast" communication rate of 1200 baud—about 120 characters per second. The so-called "baud rate" is an antiquated term describing the number of times per second the signal changes state; we now describe speeds in bits per second (bps). That's because electronic trickery at speeds above 2400 baud scrunches multiple "bits" per "baud," so the term is essentially meaningless, or at least deceptive.

Now a 28 800 bps modem is a commodity, 33 600 bps (the theoretical maximum for dial up lines) is beginning to show up (although its standard isn't yet engraved in stone) and several vendors have announced 56 Kbps modems thanks to some digital magic I'll explain later.

The rated speed of a modem (28 800 bps, for example) doesn't guarantee data throughput at that speed. Just as the speed limit on a highway doesn't guarantee that you'll be able to drive that fast. Conditions may not allow it. Phone lines, as you probably know only too well, are not the clearest transmission medium—you get hisses and crackles from the line itself, not to mention clicks and thumps when some kind soul picks up an extension.

Without error correction, any of these foreign effects would cause your data connection to drop (and no, they haven't quite solved the problem of call-waiting beeps yet—they'll kill a session without fail, so disable the feature before you dial out). The alphabet soup on your modem's box describes the various ways the device tries to overcome these problems and get the fastest possible throughput.

That #$@! sound

When two modems connect, if you have the speaker enabled you'll hear high pitched shrieking for a moment or two. It's called negotiating, and it's the modems' way of deciding what speed the line quality will allow them to use. If there's a lot of static, the two modems will "speak" to each other more slowly to compensate. They'll also use various forms of error checking to correct distorted signals.

Another possible problem with external

continued on page 47

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Modems: A basic description ...

continued from page 46

modems is the serial connection to your PC Older machines may not be able to keep up with high speed modems unless they have a 16550 UART (the chip that controls the serial port) You can buy inexpensive add-in boards with 16550s that replace existing serial ports If you don t have a manual for your computer hardware get the dealer to install the card and disable the old, slow port

Now let s translate some of the gobbledygook. The International Telecommunications Union (ITU formerly known as the CCITT) recommends and approves global telecommunications standards and are the folks responsible for the "Vxx" you'll find on modems.

Each standard defines how modems will function at a given speed If you happen to see a modem labelled "Bell 103" or "V21" for example you ve found an artifact—those are the standards for 300 bps transmission "Bell 212A" and "V22" are for 1200 bps while "V22bis" gets you up to 2400 bps "V32" is the standard for 9600 bps and "V32bis" hits 14 400 bps If you have one of the few 19 200 bps modems it s "V32terbo"

The 28 800 bps modem standard is "V34" If you see a 28 800 bps modem labelled "VFC" however don t count on its being compatible with anything except another VFC—it is not an accepted standard, but rather the transmission method suggested as a 28 800 bps standard (and not accepted by the ITU) by Rockwell and Hayes. Another proprietary standard put forth by USRobotics was "HST" but these devices sometimes also support V32bis

You sit corrected

These standards only describe transmission speeds There s another lot of acronyms that tell you what sort of data compression and error correction you can expect

Data compression is a technique for representing a whole lot of characters in a sort of shorthand to minimize the amount of data that flows across the line and make file transfers quicker In a graphic for example you can enumerate 1 800 blue pixels, one by one or "compress" the transmission by simply saying "the first three lines are blue"

"MNPx" (there are 10 levels of MNP) describes protocols developed by Microcom (hence Microcom Network Protocol) MNP1 through MNP4 are error correction techniques while MNP5 through MNP10 include data compression as well

"LAP/M" is an error correction standard developed by Hayes and AT&T which has been incorporated into "V42" as have MNP1 through MNP4 "V42bis" is V42 with data compression of up to 4 1 (typically less)

These are the accepted standards encompassing speeds up to 28 800 bps Now the debate starts Several vendors are shipping 33 600 bps modems They don t necessarily talk to each other so if you plan to buy one make sure it s upgradeable (preferably for free via flash BIOS) to whatever standard is approved

Newer yet are the recently announced 56 Kbps modems They re asymmetrical—that is they receive data at 56 Kbps but only transmit at 28 800 bps Lucent Technologies Motorola USRobotics and Rockwell have all announced their own versions which use the high speed digital connections most Internet service providers and commercial online services operate over to overcome the theoretical speed limit of analogue phone lines (and, of course, they re not compatible)

This technology will compete with another asymmetrical transmission protocol ADSL (asymmetrical digital subscriber line) currently in field testing which could offer over 1 Mbps over ordinary phone lines but will require changes in the telephone company s equipment

And that in a nutshell is the data modem world ◆

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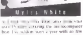
Columns

1996: What happened?



White's Bytes

Myles White

[illegible] 1996 after [illegible] over 15 [illegible] covering the microcomputer beat I've seldom seen a year with so few major developments.

A couple of factors appear to be at work. After a flurry of quick software releases in the last quarter of 1995 for the then new Windows 95, most of the industry sat back and held its breath while waiting to see if Microsoft's new operating system would fly. Preliminary results didn't live up to expectations as, after a brief buying spree by the adventuresome, many owners of existing computers running Windows 3.x discovered that their 486-based systems weren't robust enough to produce acceptable performance.

In the office suite genre, although Microsoft was quickly out of the gate with *Office 95*, both Lotus and WordPerfect were sorting out acquisition shakeouts. *SmartSuite 96* was a combination of old and new products, while Corel's *WordPerfect 7 Suite* missed the 32-bit boat by being compatible with only Windows 95, ignoring the corporate market (which largely jumped Win95 in favour of Windows NT—and to my knowledge Corel still hadn't supplied the patch to fix this oversight as of early November when I'm writing this).

Working at a disadvantage

Utility packages released early in the Win95 cycle didn't live up to expectations either, as developers pondered exactly what holes in the system they could supply products to fill. Those that did make it to the street were disappointing, either by offering little, being slightly unstable or

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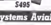

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1996: What happened?...

continued from page 48

both—a condition many privately blamed on the development environment as it existed near the end of last year Most companies didn't see the final shipping code for Windows 95 until the rest of us did and were working from software developer kits that were one or two beta versions old

Even software developers have to go through a learning curve and it doesn't help if the only way to practice is on a product that isn't finished We should see some more stable products arriving at the end of this year or early next

Hardware sales were off slightly in 1996 and there weren't many innovations here either As I was going over this year's list of offerings only a couple of minor adjustments came to mind One of the better things was the drop in RAM prices beginning in the spring of this year With 72-pin 8 MB single inline memory modules (SIMMs) selling for as low as $78 a piece in some markets new system buyers and existing system owners could afford to upgrade their computers to get better performance You can see the effect the price adjustment has on new systems being offered too with 16 MB of RAM pretty much a standard and with an upgrade to 32 MB in the "cab fare" category

I wish I felt this trend would continue but little signs of the price bottoming out or beginning to rise are already appearing We may remember 1996 as the year Michael Dell predicted that RAM would drop to a dollar a megabyte with some wry fondness

In the home computer field, telephony options were king. Products offered by the nationals at the mid and high ends started arriving with at least 256 KB of external cache memory as a standard, (although you can still find cacheless systems at the low end).

I've been looking for hardware innovations too but have come up fairly blank Things anticipated earlier in the year such as Digital Video Disc and the so-called Internet Toasters *are* going to arrive but not in quantity until next year

Well, the mouse is stirring. .

It's a pretty sad year when the only innovation that comes to mind is for the smallest component in our systems Microsoft's new scrolling mouse, designed for use with its *Internet Explorer* and the due-to-be released *Office 97* suite

In fact if you want to see where the development went you have to look to the Internet, which just keeps growing and absorbing more attention than ever Here's where the major software battle erupted, between Microsoft and Netscape over who could produce the better browser (hint: both are free to download. Do so it will encourage both companies to keep beating each other up to come out with better and better products)

We also saw a flood of Internet Web-authoring software and innovations to existing products to make them Internet friendly I've had advance looks at both Microsoft's and Lotus's new office suite products for example and their Internet connectivity—particularly in *MS Office 97*—will amaze you

If I had to pick a software product that stands out in 1996 it would be Microsoft's *Publisher 97* Aside from a simple approach to just about anything you'd ever want to do with desktop-publishing software and despite some shortcomings that will make professionals hate it, *Publisher 97* pretty much defines the standard for easy-to-use software for the average home/small business computer user

It also anticipates the trend towards average users wanting to set up their own World Wide Web pages (and a fully functioning, albeit time-limited version may still be available for free download from http://www.microsoft.com/ when you read this)

The Wizard-driven interface that makes setting up a Web page very simple—simple enough in fact to finally convince me to take the time to try one To see the result have a look at my new home page (http://www.io.org/~myles/) built entirely with *Publisher 97* After a year of ho-hum development, I'm really looking forward to the next

Associate editor Myles White writes a weekly column for the Fast Forward section of the *Toronto Star* and is author of *How to Buy a Computer* published by McClelland and Stewart He may be reached by e-mail at myles@io.org or myles@hdirect.com through his home page at http://www.io.org/~myles/ and by fax at (416) 425-4644 ◆

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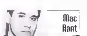
New Apple computers

in time for the holidays

Whatever your religious persuasion Apple has a few presents in store for you this December. Apple has added two new members to its Performa family of computers and upgraded an existing system. The new Performa 6360 system is an entry level desktop computer with an estimated street price of $2,499 (without monitor). The new higher performance Performa 6400/200 Video Editing Edition has an estimated price of $3,949 (without monitor).



David Rosen

Apple is aiming the Performa 6360 at first time or family buyers The Performa 6360 uses a 603e 160-MHz processor comes with 16 MB of RAM provides a 1 6 GB hard drive and includes an 8X-speed CD-ROM drive and a built in 28.8 Kbps data/fax modem

Macintosh Performa 6400 Video Editing

continued on page 51

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New Apple computers ...

continued from page 50

Edition on the other hand is designed for small-office workers and home-video enthusiasts In contrast to Apple's previous relatively low-quality attempts at home-video production this little critter produces VHS-quality video output!

Tin man's delight

At the heart of the machine is Avid Cinema an easy-to-use editing system developed by Apple and Avid Technology Behind the scenes, a 200 MHz Macintosh Performa 6400 powers the solution and comes complete with 32 MB of RAM and a 2 4 GB hard drive The system also comes with the Apple Video System, 1 MB of Video RAM 256 KB of Level 2 Cache a high-performance module that increases performance about 30 per cent, an 8X-speed CD-ROM drive and a 28 8 Kbps built-in data/fax modem

Last but not least Apple has announced that the Macintosh Performa 5260 the company's already-shipping all-in-one system now sports a 120-MHz PowerPC processor and is available for an estimated street price of $2,499

Included with all Performa systems (including the new 6360 and the 6400/200 Video Editing Edition) are more than two dozen software applications The software bundle includes *ClarisWorks 4 0* and lots of other goodies

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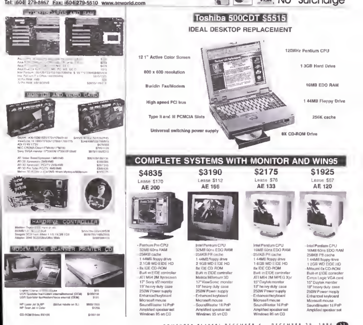

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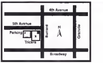

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New Apple computers ...

continued from page 51

automobile cigarette-lighter type adapters but hey—it's a start Our only hope is that other airlines follow suit

And speaking of PowerBooks

As we forecasted last month Apple has finally released its new keep-up-with-the-Jones PowerBook Many months had passed since the company upgraded its popular laptops and even die-hard MacHeads were saying that the once flagship PowerBook had seen better days Well the wait is over

The Apple PowerBook 1400 will be available in four different configurations Three of the systems use a 117 MHz PowerPC 603e processor while the fourth uses a higher performance version of the chip running at 133 MHz with level two cache

Depending on configuration the PowerBook 1400 series features 11 3-inch dual-scan or active-matrix displays two PC Card (formerly PCMCIA card) slots 12 or 16 MB of RAM (expandable to 64 MB) 750 MB or 1 0 GB hard drives and a floppy or 6X speed CD-ROM drive The PowerBook 1400 series also comes with built-in infrared technology for wireless file sharing with similarly equipped systems The estimated selling prices for the four configurations range from $3,699 to $5749

A versatile expansion bay on the PowerBook 1400 lets you use a variety of storage options including a floppy drive CD-ROM drive additional hard drive magneto-optical (MO) drive and a Zip drive (expected to be available in first quarter of 1997 from VST Technologies Inc)

> **As we forecasted last month, Apple has finally released its new keep-up-with-the-Jones' PowerBook. Many months had passed since the company upgraded its popular laptops and even die-hard MacHeads were saying that the once-flagship PowerBook had seen better days. Well, the wait is over.**

Of course the neatest feature of the new PowerBook isn't inside it's outside The PowerBook 1400 series features a customizable BookCover panel This removable clear exterior panel lets you personalize the appearance of your PowerBook with colourful interchangeable inserts The 1400 will ship with seven inserts designed by professional artists but you can create your own inserts as well Third-party developers will offer wood-grained leather and other types of textured BookCover panels as accessories

The 117 MHz configurations of the PowerBook 1400 are expected to be available by the time you read this. Availability of the 133 MHz version is expected in January Apple believes supplies of the new PowerBooks will be constrained through January due to pent up demand at introduction and until Apple reaches full manufacturing capacity of the product

By the way more powerful PowerBooks are on the way in the next few months If you need to do multimedia presentations for example you might want to wait just a little bit longer because the next series will blow you away!

The colour of money

If you bleed in six colours you'll be heartened to learn that Apple seems to be pulling itself back from the brink of financial death Apple achieved $410 million in positive cash flow from operations during the last quarter reduced inventories by nearly $400 million since June and ended the quarter with over $1 7 billion—yes billion with a "b"—in cash and short-term investments

Apple says that the news is also good on the profit front where gross margins increased due to declining component costs and improved manufacturing efficiencies Apple's revenues increased from $2 179 billion in the June quarter to $2 321 billion in the September quarter Sales were particularly strong in the US K-12 education market and the business markets

If you have a tip, why not share it? Be clear concise, and fawning and send it to MacRant@aol.com Please note that due to the volume of mail individual questions cannot be answered ◆

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Corel Office for Java good news for Warp 4 users

OS/2 Ready
Kevin Linfield

Ottawa-based Corel Corporation has been hard at work developing its *Corel Office for Java* application suite. The company wants to target the multiplatform environment, as Java code should work the same under OS/2, UNIX and all forms of Windows. Java users (anyone running OS/2 Warp 4 or *Netscape for OS/2*) can get a sneak preview (or if you are lucky sign up to become beta testers) of *Corel Office for Java* at http://officeforjava.corel.com/

As I type this both *WordPerfect 7* and *Quattro Pro* betas were available for testing with Netscape.

Merlin: A commentary

Now that OS/2 Warp 4 (Merlin) is generally available it is time to give it some editorial comments.

Overall I think IBM has released a good upgrade for OS/2 Warp 3. The new features (like VoiceType Navigation and Dictation) are going to have more people try OS/2 than ever before. I know we all want the ability to talk to our computer just like in *Star Trek* (but make sure you talk into the microphone, not the mouse). I am also disappointed with the new hardware requirements.

Based on e-mail I have received from loyal OS/2 Ready readers most of you fall into two groups when it comes to hardware. Those of you who always have the latest and greatest toys and those of you who use their computer in a practical way—as a tool to get the job done. In my opinion Merlin is aimed at the former of these two groups. If you have less than 16 MB of RAM don't even consider installing Merlin.

My advice to most people? Keep running OS/2 Warp 3. My notebook (486 SX/33 with 12 MB of RAM) ran Merlin (and the beta) for over four months. I finally got tired of it occupying 150 MB of my 340 MB hard drive and causing my swapper file to grow very large. I was more productive (on this machine) with OS/2 version 3. I subsequently reformatted my hard drive and reinstalled OS/2 Warp Connect.

My desktop machine is still running Merlin, as it has 16 MB of RAM and a 486 DX2/66 processor but if anyone wants to donate a new motherboard or RAM please contact me!

Mail confusion

Back when Warp 4 was in beta, it was rumoured that *Ultimail* the much maligned mailing program that ships with OS/2 would not be included with Merlin's release. We now know that Warp 4.0 ships with both *Ultimail 2.10.004* (yes, that is the correct version number) and *Lotus NotesMail 4.1*—but what you did not necessarily know is that you cannot use *NotesMail* with your Internet service provider as it ships.

Confused? So were hundreds of other users. If you read the README in the root directory of your OS/2 Warp 4 drive, you will note a Web-page listing to aid you in the setup of *NotesMail* for POP3 mail service (for those of you who haven't read your README, the address is http://www.austin.ibm.com/pspinfo/mailpop3.html)

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continued on page 56

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CAAST

Corel Office for Java ...

continued from page 55

have fun setting it up I would strongly suggest you check out http://home.istar.ca/~lorenb/ This is a Warp user's home page that explains step-by-step how to get *NotesMail* to work. Those readers who are using any of the mail clients I reviewed in September's issue can relax *MR/2 ICE PMMail* and PINE all work fine with OS/2 Warp 4

OS/2 product updates

With IBM's release of OS/2 4 0, other companies have launched updates or new products of their own Sundial Systems (owners of *Relish* and the *Clearlook* word processor) have released another update of their *Mesa 2* spreadsheet Version 2 16 can be downloaded from http://www.sundialsystems.com/

Adobe's first official beta version of the *Acrobat Reader for OS/2* is now available and unlike the alpha version this one can print! Adobe's home page for the OS/2 beta is http://www.adobe.com/acrobat/3beta/

DeScribe Inc makers of the multiplatform *DeScribe* wordprocessor I reviewed in an earlier issue of this publication, has entered liquidation. Company officials claim that they can't compete with Microsoft and Corel for the word-processing market, but I also feel that it was due to major mismanagement and poor corporate decisions You can read their official announcement at http://www.describe.com/

Looks like it's time for me to switch word processors again!

The Professional version of *FaxWorks* (recall that the Lite version ships with OS/2's BonusPak) now features voice mail pager notification remote retrieval of messages and fax-on-demand Fully updated to take advantage of VoiceType Dictation, you can also send faxes via Internet e-mail and integrate faxing with other OS/2 applications using REXX

Contact Global Village Communication at 1-800-329-9675 or see their home page at http://www.globalvillage.com/ for additional information

Shareware of the Month

In October's issue I reviewed SofTouch Systems *FileStar/2* file manager stating that it was easy to use but slow on all but the high-end machines Afterwards Canadian programmer Bruce Henry e-mailed me to tell me about his product *File Freedom*.

Released in a 30-day demo form, you can register it for only $10 (plus GST) which is a lot less than *FileStar/2 File Freedom* is very easy to use simple to set up, fast on all OS/2 machines and has advanced features such as the ability to look in a ZIP file within a ZIP file

You can pick up a copy on the Internet FTP site hobbes nmsu edu in the /wpsutil directory To contact the author e-mail him at brhenry@kw igs net

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Chip choices explained

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Q Could you explain the difference between 5x86 6x86 Pentium and Pentium Pro? I have been scouting around for a computer and have been told the following

1) Pentium 64-bit processor, handles 16- and 32-bit applications

2) Pentium Pro 64-bit processor, geared towards 32-bit applications doesn't handle 16-bit applications well

3) 5x86 = Pentium

4) 6x86 = Pentium Pro

I have seen Pentium Pro 150 180 and 200 MHz machines, but have also seen 6x86 120 133 and so on machines and have seen 6x86s compared to Pentiums. This has me a bit confused. Please clarify the differences and any suggestions/advice you have on pros and cons or direct me to a Web site with the answers.

Layi Oshunowo

A *Myles White replies: Your broad assessment of the basic differences between Pentium and Pentium Pro is almost right. In my tests of the two processors, both running at the same speed (200 MHz) and both in systems with 32 MB of RAM the Pentium was slightly faster than the Pentium Pro running 16-bit software while the Pentium Pro ran 32-bit software over than times faster than the Pentium.*

My conclusion. if price is not the most important factor, my operating environment will determine which processor is better suited to my needs (i.e. the Pentium for Windows 95 and the Pro for Windows NT, OS/2, UNIX, or a Win95 environment where I run mostly 32-bit applications).

"Pentium" is a name registered by Intel. That's why you'll see ads for systems with other processors calling them "586" or "586-class"—or merely specifying the speed of the processor without indicating who made it.

The 5x86 was developed by Cyrix and was formerly the "M1sc." According to the company (http://www.cyrix.com/) the 5x86 is not physically equivalent to a Pentium, it is essentially a 486 processor that executes some Pentium instruction code. Think of it as a 486 on steroids and you have it about right. It is

continued on page 58

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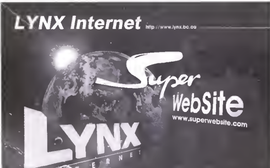

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You Asked It

Chip choices explained ...

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marketed by both Cyrix and IBM.

The 6x86 was first introduced by Cyrix under the name "M1. Although both Cyrix and IBM market 6x86s, they are all manufactured by IBM based upon Cyrix's designs. Early versions of the 6x86 (up to the P133) were lauded by many industry analysts as providing Intel with some real competition and no serious compatibility or stability issues have been reported. Because these CPUs not only execute the full Pentium instruction set, but also utilize some Pentium Pro data-handling techniques, they actually outperform Intel Pentium chips of the same speed.

Unfortunately, at about the same time as they renamed the M1 to 6x86, Cyrix also started quoting speeds based on a "P-rating" now also supported by IBM and AMD, another Intel wanna-be. Using the P-rating, the companies started marketing their products based on how quickly they performed compared to Intel products, not based on the actual internal clock-speed of the processor—something else to keep in mind when asking vendors what the speeds quoted in their ads for the unnamed "586" really represent.

When we get to Cyrix's "P150+" and "P166+" I'd advise caution. A story carried in the August 19 edition of PC Week Online (http://www.pcweek.com/archive/1333/pcwk0078.htm) by Lisa DiCarlo, quotes several sources saying these Cyrix processors are prone to fail from overheating. The story was careful to point out that IBM's version of the chips didn't have the same problem.

At least one source speculated that the problem was due to a difference in standards used by the two companies during quality-control testing (IBM makes 'em all at its Burlington Vermont fabrication facility, but each company uses separate testing of the batches it receives).

Di Carlo's story went on to say Cyrix has attempted to keep the chips cool by attaching a large heat sink and a fan that runs approximately three times faster than most standard CPU fans, and that it was necessary for PC makers to build in airflow ducts to push the heat out. She also cited one of Cyrix's 6x86 customers, Sys Technology Inc. as reporting it uses three fans and two heat sinks to cool the processor and other components.

Cyrix has denied there is any problem at all. "There are no heat issues. It's the most ridiculous thing I've ever heard," Steve Tobak, Cyrix vice president of marketing, was quoted as saying in the article—and he went on to say that when all fan and motherboard specs are met by (system manufacturers using the processors) the systems perform reliably.

For several years, I've been saying that if everything you think you know about the performance, stability, speed, and compatibility of a PC processor is based on what you've read and heard about Intel's version of the chip (http://www.intel.com/), then when you pay less for some other company's version, less of these factors is what you may get. ◆

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All the help that's fit to print

MacShrink™

by David Rosen

The Doctor's note Perhaps some of the most frequent questions we get at MacShrink concern themselves with printers This month's column is dedicated to a few of the more interesting printer questions we've received recently

Q Dear Doctor My LaserWriter IIg printer works okay except when I try to print a really complex report (lots of different text and graphics). Sometimes I even get a PostScript error (8993 whatever *that* means) and other times the printer just sits there and seems to get lost I know it's thinking because its green light continues to flash but then nothing happens What can I do?

Signed Ashook via Prodigy

A *Dear Ashook: Relax. There's a simple prescription for your ailment. First, let's get to the root of the problem. Your LaserWriter has a certain amount of RAM into which your Mac sends a print job To print a page your printer has to calculate thousands—sometimes tens of thousands—of PostScript calculations In your case these calculations take only a few seconds but, depending on the complexity of the print job this 'thinking' can take a few minutes or more*

When a printer has to calculate a very large amount of complex graphics information or lots of different fonts on a page, you may get what's known as a "time-out" error The error you received (PostScript error 8993) is one type of time-out error, and usually occurs when printing multiple copies of large and complex documents in the background

For most people background printing should be turned on. This lets them continue working on their Macs while their printer works its magic The problem is that background printing doesn't allow the printer to ask the Mac to help it print (since your Mac is off doing something else for you) The answer is to print the documents one at a time or select foreground printing You can toggle background printing on and off using your computer's Chooser extension (located under the Apple menu)

The Doctor

Q Dear Doctor A friend told me I don't have to launch an application to print my document She said all I have to do is select it in the Finder and then choose "Print" from the File menu The first time I tried to do this it worked like a charm The second time I selected a few different documents but ran into problems Why is this happening?

Signed Alex in Sarnia

A *Dear Alex: Your Mac may not be able to print multiple documents with the Finder if these documents have been created by different application programs The solution is to select and print only documents created by the same application at any one time. Once all the documents created in one application are printed, you can print the documents created in another application. The Doctor*

Q Dear Doctor When I print anything on my StyleWriter II there are thin white lines through all the letters What's causing this?

Signed: Shasha via MSN

A *Dear Shasha. The lines you describe can be caused by a number of things. The first thing to check is, of course*

continued on page 60

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William H McDonald, billmcdo@idirect.com

All the help that's fit to print ...

continued from page 59

whether the print cartridge has enough ink. This is especially the case if your printer was working perfectly fine and is now printing those white lines. StyleWriter cartridges can print about 300 pages at 5 per cent coverage If you think you're nearing the end of a cartridge's life, try replacing it.

Additionally, the ink jets may be clogged or have air bubbles in them. You can clean the ink cartridge yourself First, remove the ink cartridge from the printer by reversing the instructions for loading a new cartridge Next, cover the area at the bottom of the cartridge (you will see a silver strip) with a wet paper towel or Kleenex. Finally, shake the cartridge a few times as if you were shaking down a thermometer. This should force some ink out of the jets and may eliminate the lines.

If none of the previous suggestions have worked, try opening up the front of the printer and move the ink cartridge assembly to the left. Underneath where the ink cartridge was you will see a clear plastic wiper blade and a small rectangular area with spongy material. If any lint has accumulated in this area, use your Q-Tip (or your finger in a pinch) to wipe it off.

By the way, if you leave a piece of paper in the printer for a long time, lint and dust can build up on the paper. Eventually, the ink can t get through the dust, causing the stripes you ve encountered.

Finally, if you still aren't printing properly, you may have a defective ink cartridge. Try replacing it with a new one.

The Doctor

MacShrink FactSheets are back

The Doctor now makes house calls Back by popular demand the MacShrink FactSheets now feature individual articles on how to prevent (and cure) system crashes start-up problems printing problems SCSI hassles and much more

The following is a list of FactSheets currently available As usual each FactSheet is free for the asking (and a self-addressed stamped business-size envelope addressed to this newspaper) Don't forget to mention which FactSheet(s) you want

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You can reach MacShrink directly by sending your message to MacShrnk@aol.com Your last name and e-mail address will not be printed Please note that due to the volume of mail individual questions cannot be answered All questions become the property of MacShrink™ and David Rosen. ◆

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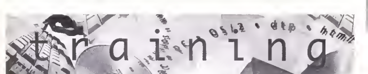


Finding a computer guru

• • By ALAN THWAITS • •

Purchasing a new computer is, for most of us, a major life decision Granted, it may not rank up there with buying a home or choosing a mate but it usually involves a not-inconsiderable amount of money time and effort.

Here's a primer for you, the would-be Savvy Computer Buyer It's meant for all of us really because the urge or need to buy is going to strike all users at one time or another. Not only is computing hardware changing all the time, but those crafty folks at "Software Central" are always giving us programs that need the latest powerhouse machine to make them go faster than molasses in a proverbial northern winter.

Delgate, delgate

One increasingly popular option is to contract the work out (this is the 1990s after all, when one needs not only a lawyer and an accountant but a computer guru, too). This is the approach favoured by Heather McIntosh owner of Innovative Communications a public-relations company based in Sedgewick, Alberta. "I'm one of the lucky ones" says McIntosh, "I have someone who sorts through all the different manufacturers claims for me!"

The issue for buyers like McIntosh is not sorting through complex technical specifications, but gauging the professionalism of the "computer guy (or gal)" she says, "I have complete trust in mine, and he has yet to steer me wrong."

How do the pros go about making such decisions? Let's take a look. Liz Clarke runs LizWorks a hardware/software consulting firm based in Toronto Ontario Her core business is answering each client's primary question "what's the right computer for *my* needs?"

Clarke says the basic decision is between brand-name and custom-built units. She recommends custom-built systems for those who can accurately predict how they'll be using the system for the next three years (the average "usability" span of a computer) and brand-name units for those who are unclear about their current or future needs

When purchasing a custom-built unit, you'll need to be very clear about what you want. This has both a "machine side" and a "human side," says Clarke In the first case if you can be precise about what you want to do on your new machine the custom builder can install the highest quality components that will fit both your needs and your budget. In the second, developing a good relationship with a custom builder "may prove to be valuable should you run into trouble in the future," according to Clarke

Brand-name units, on the other hand come with lots of software good warranties and—of course!—that big-name label on the front of the box. They also come with more software than you'll (probably) ever use much or all of it without manuals or with only limited support The bundled software may also conflict with the software you really *do* want to use which means you may be facing considerable periods of downtime sorting out the conflicts. And, while the new powerhouse system may look very impressive just sitting there on your desk, you didn't pay the big bucks for another pretty face did you?

Contracting out your search to a consultant like Liz Clarke doesn't mean abdicating responsibility for your eventual purchase. Not only will you need to be able to articulate your computing needs to someone else, you'll need to take on responsibility for deciding whether that person deserves your business and your trust.

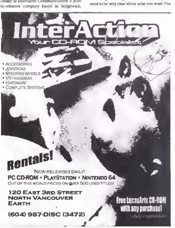
Asking questions like, "What's your technical background?" "How long have you been in business?" and "Can I talk to some of your previous clients?" won't be taken amiss by a consultant worth her or his salt. In fact, you'll probably have a *better* working relationship with the consultant if it's based on mutual respect and honesty

Price isn't everything

What advice does the custom builder have for the *Savvy Computer Buyer*? Derek Keoghan of Finnegan Software in Scarborough Ontario advises his clients not to cut corners just to get what seems to be a great price His market is the home office/small business professional so the targeted outcome is a system that will "*put more hours in the business day*" in Keoghan's words

He cautions his clients to look to the details of what *really* drives a system's productivity like ensuring that it has sufficient RAM Not having enough in an effort to save $20 or $30 will cost you later on because your business will have to absorb the implications of a primary resource not functioning or functioning poorly

Alan Thwaits is a freelance writer He can be reached at prascomm@idirect.com ◆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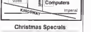

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網際網路上的命理世界

作者 林聆清

一、前言

大部份的人[illegible]鳳[illegible]鳳命，有的人是[illegible][illegible]算，有的人與鳳運各大小鳳命[illegible]一）

本期特別搜集了目前在[illegible]際網路上的一些有關命理的位址，希望能讓各位讀者鳳鳳解自己的命[illegible]

二、命理網址資料

網址：http://www.ysnhan.com.tw/cdn/sierhim

說明：各星座本週運明，中華日[illegible]提供[illegible]星座的說明差不多都與只有一行，而且內容與其他的星座解釋運鳳，是否鳳[illegible]就出[illegible]者自行去判斷了?

網址：http://www.nnal.com.tw/china/chinahim

說明：紫[illegible]斗[illegible]、子平八字、奇門遁甲、姓名學等鳳上排命[illegible]內容頗多，且主持人也頗有來歷，但是採用會集制，所以非會與只能[illegible]看簡單的資料，[illegible]者可以自行決定是否要參加其會員以取與更詳鳳的資料?

網址 http://ooo.cafe.hinet.net/eternity/

說明 鳳水命理系列講座，與南宮[illegible]與世界您知道如何提迷解惑，[illegible]者[illegible][illegible]，[illegible][illegible]自救嗎?

天鳳與東與您共同探索生命的價[illegible]和生活的意義，並助您[illegible]利築登[illegible]滿人生的高峰。

影[illegible]人生的五大鳳素「一命，二運，三鳳 四積德 五[illegible]書」先天落土[illegible]即已定出生辰八字，已數遠規劃出人生必走的道[illegible]，僅與全仰[illegible]後天如何去裝飾彩繪它，[illegible]人生的鳳程鳳多彩多姿鳳一帆風[illegible]。

主鳳與帶來公鳳[illegible][illegible]的[illegible]明會鳳[illegible]習的[illegible]刻鳳，這對於[illegible]在加拿大的我們 好與幫助不大?

網址 http://msda.aidc.gov.tw/81/Slesinhim

說明 鳳[illegible]星座運明預[illegible]，由民生[illegible]提供[illegible]週的運勢解說的相當詳[illegible]，[illegible]者可以運鳳去[illegible]鳳?

[illegible]址 http://sinanet.com/sinsheng/horoscope/

說明 [illegible]外SinaNet Mirror

這鳳上面那[illegible]鳳則上是一樣的，但鳳料好鳳會與一天(可能因為與在[illegible]外吧)!

網址 http://www.hypernet.com.tw/~sichang/

說明 專鳳命理[illegible]詢，依鳳中[illegible]哲學之易[illegible][illegible]念，配以陰鳳五行生剋理[illegible]，即中[illegible]占卜鳳(卜卦，鳳命)，與鳳出一生運明，[illegible]略 [illegible]與、學[illegible]，與與鳳各項鳳[illegible]鳳鳳化。

連鳳去以後，幾乎沒有任何的指示，所以有些人可能就會不鳳了?

事鳳上，您只要在[illegible]面的中間按一下，您[illegible]可以進到與面去了）

如果您還是找不到，[illegible][illegible]四[illegible]按一按吧?

祝您好運!

網址 http://www.pros.com.tw/life/

說明：大致[illegible]與供的鳳訊，內[illegible]包括星象，命[illegible]，以及年鳳鳳俗鳳鳳鳳鳳兩內容

這是超能玩家俱樂[illegible]所鳳立的Web Site，有關星座鳳份的鳳料是由大鳳[illegible]所提供，[illegible][illegible]與非[illegible]詳[illegible]，對星座有興[illegible]的朋友，千鳳不可[illegible]過此站?

這一頁則包括鳳與[illegible]的相[illegible]資料

☆慢慢[illegible]與友誼與與
☆積財之家氣口必旺
★財[illegible]滾滾前鳳灶位
☆光芳[illegible]祖非[illegible]與[illegible]宅鳳水加把勁
★[illegible]宅方位五行[illegible]吉運凶之本
☆[illegible]公室鳳水[illegible]氣提上聚鳳即[illegible]財
通氣財必旺
★[illegible][illegible]的鳳法及使用方式
★以與取人你的眉毛合鳳[illegible]?
☆凶惡之[illegible]五官可肖
★三停相法[illegible]人鳳[illegible]人與人好依鳳
☆熟讀し性鳳痣[illegible]鳳[illegible]山[illegible]主自信
★疾厄宮病症災厄之表鳳
☆前言·
★[illegible]卦鳳密的自我覺察
☆「復卦」修心以免災·
★「剝卦」變中求定
☆「賁卦」自然的包裝·
★「无妄卦」[illegible][illegible]妄想與有成
☆「大畜卦」平時[illegible]興用[illegible]無憂
★「[illegible]卦」平衡物質與心[illegible]
☆「大過卦」安守本分[illegible]防險[illegible][illegible]
★「[illegible]卦」愛人忠己世界大同
☆「恆卦」持之以恆與沙終塔
★「坎卦」自我檢鳳逆增上鳳
★「鳳卦」俯仰無愧病治無憾
★「咸卦」兩與相悅天地相感
★「家人卦」鳳婦有[illegible]福至[illegible]門
★「[illegible]卦」合久必分 分久必合
★鳳人鳳明運走運的[illegible]鍵功臣·
☆敬興樂業鳳命運鳳
★命運鳳一駛半人厄吉凶[illegible]·
☆命運線一[illegible]與衝包[illegible]不[illegible]
★提受線一紅鳳星動好事近·
☆太陽鳳見[illegible]能一運途多舛
★太鳳鳳一與婦人緣 運財·名鳳
☆斷[illegible]英[illegible]一鳳成[illegible][illegible]

網址 http://www.aenpeople.com/MP-Luck/la Luck.htm

說明 根據生日，血型，性別鳳出本[illegible]的運明，新新人[illegible][illegible]鳳中文網[illegible][illegible]供，以[illegible]與[illegible]示中文。

網址 http://www.linnet.net.tw/cgi-bin/head/succeed?/fortune/life_weight.html

說明 根鳳生辰鳳出運[illegible]兩[illegible]

這一頁是依[illegible]您的八字來鳳您的命[illegible]，依[illegible]您的命重來鳳出您的一生命運走向!

鳳料歷軍明鳳，[illegible]當們不妨前往一鳳?

網址：http://www.snedne.net.tw/engerlop/index.htm

說明 與與姓名學之與鳳鳳[illegible]以鳳正一般人對命理的[illegible]念，並進而以命[illegible]之哲學，增進對自我人生[illegible]值的提昇，裡面有相當多有[illegible]姓名學的資料，與對姓名學有興[illegible]的[illegible]者不可[illegible]過的網站?

只鳳[illegible]著與鳳的資料一步步的然[illegible]，就能對於姓名作出相當準確的判[illegible]

網址 http://servicc.nicl.com.tw/predict/predict.html

說明 <dd>血型星座鳳命

鳳了提夠鳳上在鳳上專您來[illegible]血型占星術外，也收集了許多與星座有[illegible]的

網站(中外皆有)，讀者切不可錯過?

網址：http://starwarsmagic.com.tw

說明：多媒體光碟

這是一個多媒體光碟的介紹，算是個廣告吧!

對於這個新科技有興趣的人，可以連過去看看?

網址：http://www.dynavan.net.tw/www/fortune.html

說明：提供星象相關，星座與性格、星座、飲食、風水與手相等

這一網的內容也是非常豐富，網頁內容有

1996星象相關
1996星象大明與未來預測
風水的意義與水族箱的影響
陽宅風水—魚缸篇
陽宅風水—地勢篇
陽宅風水—大門篇
陽宅風水—玄關篇
陽宅風水—客廳篇
陽宅風水—神佛篇
陽宅風水—廚房(附餐廳)篇
陽宅風水—臥室篇
陽宅風水—浴廁篇
陽宅風水—辦公室篇
陽宅風水—商店篇
星座 vs 健康
星座 vs 飲食
開運與12星座
手相
每月占卜

網址：http://www.ncc.com.tw/

說明：提供軟體開發的命理軟體，包含子平八字、紫微斗數、姓名學、占卦、奇門遁甲、擇日、三世因果、梅花易數，並有試用版下載及免費線上排盤論命主要是這家公司所出版的一系列命理相關軟體的試用網頁。但由於提供試用版下載服務，所以您可以直接將程式傳回自己的電腦，然後您愛怎麼算就怎麼算，豈不自由哉?

試用版與正式版只差在無法印表而已，其他功能則一模一樣。

網址：http://cdem.cycu.edu.tw/~hour/

說明：有星座篇，血型篇及一些個人也是一個業餘的網站，資料也搜集的很齊全，但網面的處理並不是很用心?

網址：http://edworld.com/cgi-bin/number.pl

說明：只要知道雙方生日年月，就可以知道雙方在前世與今生究竟是什麼關係

這是一個很奇妙的網頁，讀者不可錯過哦!

他可以將您與某人的前世關係算出來，讓算過的人嘖嘖稱奇哦?

除了算您的前世，也對於各種星座的個性等屬性有相關評價的說明!

網址：http://www.inpweb.com.tw/p06-42.htm

說明：鄭政觀個案相論命

這是一個線上算命網，也就是您必須先寄過去，對方才幫您算命。)

有興趣的讀者，不妨連過去看看?

網址：http://www.uchc.gov.tw/RESEARCH/Solid/mwg/

說明：紫微斗數，可算命盤、基本命、大限，流年並可排出八字干支(根據四柱算法)，本軟體是日光個的軟體，認識飛但不賣單一星曜。

網頁的設計非常整齊，也提供線上算命服務，讀者不妨一試?

不過，除了命盤之外，其中的文字解說並不是很容易懂，須有這方面知識的人才看得懂?

網址：http://www.magic.com.tw/love/

說明：紫微斗數愛情算命

這是一個線上算命網，也就是您必須先寄過去，對方才幫您算您的愛情運)

有興趣的讀者，不妨連過去看看?

網址：http://139.175.144.111/

說明：命理、民俗、擇日、風水、占星內容有：

個人占星與風水
擇日
命理與資料個個與文物用品展示
台灣民俗產品
全球WWW網與個秘
李老師紫微斗數論命(免費)

其中的免費論命是使用E-Mail來達成的，而非線上直接進行?

網址：http://www.yf.com.tw/merry/fade/index.html

說明：魅力館之命理視窗

網頁的設計的不錯，但有許多的資料尚未完備，也許等到本文刊出後，他們就已經弄好了也說不定?

網址：http://sunflower.singnet.com.sg/~lelia/

說明：在新加坡求學的學生所做的首頁，內容：愛情占星這是一個令人耳目一新的網頁，修飾水準、觀光效果俱佳，各位讀者萬萬不可錯過!

雖然是在新加坡，但一樣是用BIG5的中文喔

三、結語

想試試寫您的E-Mail通不通嗎?

如果您有任何批評指教，歡迎與筆者聯絡，以下是我的聯絡方式

E-Mail：jml@iconline.com

有興趣的讀者，可以直接連到筆者的WebSite，URL是

http://www.cads.com.tw
OR
http://www/iconline.com/home/jml/index.htm

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2 Internet輕鬆上網(玩Internet必備的書)
3 資訊光碟月刊(每期皆附有600MB各類程式)
4 看圖例學PowerPoint(PowerPoint用戶必讀)
5 精通WindowsNT(NT用戶必備工具書)
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Holiday info by Net

Gifts to buy, food to prepare, decorations to hang. when holiday panic threatens to descend, help is just a mouse click away. Internet holiday sites abound, ready to assist as you clamour to complete your to-do list

• • By SANDRA MINGAIL • •

Toy hunting

Can't quite decide what's right for the little people in your family? Dr Stevanne Auerbach, director for Childhood Resources San Francisco rates the top 100 toys—complete with target age price, and toll-free numbers for further inquiry

Search for the perfect gift for toddlers or school-age children or browse Dr Toy's suggestions for kids vacation products. Sneek a peak at the list of toy buying tips—for instance will the toy stimulate creativity or will it frustrate a child? Dr Toy's Rx for Play articles tackle topics from planning a playspace to selecting socially responsible gifts

The Toys R Us Web site is a handy online catalogue organized into categories such as dolls, games, puzzles, and stuffed animals. Pictures and product descriptions let you browse the cyber-aisles before you hit the store.

Enter the online Kidshop location and bag some holiday shopping tips. This Web page points parents and kids to some top-notch WWW sites.

Kids can send an e-mail directly to Santa http //north-pole.net/

Last minute panic?

Thanks to Andy's 101 Christmas Gift Ideas, you won't roam the mall for hours. Dear Andy has compiled a list with everything but the kitchen sink. How about soap-on-a-rope, smoked salmon and caviar, a battery charger, 8 MB RAM or maybe a steering wheel cover?

ENTER to WIN!
TOYS R US

Toys'R'Us ... Http://www tru.com

More serious shoppers may want to forgo lineups, noise, and pushy salespeople and conduct their shopping transactions online The Commercial Sites Index provides its own search engine plus an alphabetical listing of virtual shops. WWW Shopping Directory presents 26 large malls and over 50 specialty shops.

And for the true shopaholic, there's the Hall of Malls, where more than 85 cyber malls show off their wares.

Cookin' up a storm

If you're starved for a novel holiday recipe, visit the kitchen of Mrs. Claus on the Christmas Recipes page Browse the secret concoctions of cranberry bread, mint bars, and holiday punch.

Straight from the kitchen of the Jarmann sisters come cookie recipes cooked for the likes of Nelson and Happy Rockefeller in the early 1960s—including petticoat tails butter cookies and haselnuesli balls Scrumptious, I'm sure!

continued on page 67

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Holiday info by Net ...

continued from page 66

Crafty Christmas ideas

Ever dream of constructing a paper towel Christmas tree? Or a candle centrepiece constructed with tuna cans and dried beans? Why not recycle those baby food jars and build a model Advent calendar? All these creations and more await you at the kids list site

If paper bag angels and gingerbread stained glass is more your speed then check out Karen's Christmas page for plenty of do-it-yourself fun

Oh, such sweet music!

Die hard Christmas carolers can visit several sites to refresh their repertoire and print lyrics to favourites such as *Away In a Manger Deck the Halls* and *Go Tell it on the Mountain*

Everything Chanukah

For those celebrating the Festival of Chanukah Chanukah on the Net is a one-stop site for stories games and crafts Watch a dreidel spin in 3-D animation or print a dreidel pattern and construct your own Read the

continued on page 68

Http //www.jewishpost.com/chanukah

"Fast Connection"

(sung to the tune of White Christmas)
Reprinted by permission from Carol Blake

I m dreaming of a fast connection
Just like the one I used to have
Where the graphics load and Java rocks
Just to hear soundfiles on the Web

I m dreaming of a fast connection
With every keystroke that I make
May your surfin be fast and free
And may all your good friends
online next to me

I m dreaming of a fast connection
With every keystroke that I make
May your surfin be fast and free
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http://catless.ncl.ac.uk/veg/Orgs/VegSocUK/info/xmas.html
Jarmond Sisters Christmas Cookie Recipes
http://be.net/~jarmode/Cookies.html
Christmas Carols
http://www.christmas.com/carols/
Chanukah Away From Home
http://www.personal.umich.edu/~jmayer/Hanukah/HAPR.about.html
Chanukah on the Net
http://www.jewishpost.com/chanukah
Hanukkah Festival of Lights
http://www.ort.org/ort/hanukkah/title.htm
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Holiday info by Net ...

continued from page 67

ancient story of the mighty Maccabees as they fought for the ancient temple

The Hanukkah Festival of Lights page is a delightful page with useful links. Brush up on a Hanukah song, learn how to play the dreidel game, download a recipe for sufganiyot (doughnuts) or listen to a recording of holiday blessings.

If you happen to be celebrating Hanukah away from home, visit the Hanukah Away-from Home page. Explore a fully automatic Java based Hanukiah or print Hanukah prayers in English Hebrew or transliteration

Global celebrations

How do children in Italy or Latin America celebrate Christmas? At Christmas Traditions Around the World, simply click on a link and you'll discover the answer

Find out about other seasonal holidays such as Kwanzaa an African American celebration, or Ta Chiu, the Taoist Festival of Peace. Learn how to say Merry Christmas in over thirty-three different languages. Did you know "Mitho Makosi Kesikansi" means "Merry Christmas" in Cree?

The ultimate

Don't miss the Winter Web Wonderland, where kids can e-mail a letter to the jolly ol fellow himself! And forget those packaged holiday cards—head for the GIFt site and send a virtual candycane, dreidel or mistletoe complete with a personalized holiday greeting. Don't forget to trim your computer with a Christmas tree screen saver—just a quick download away

Better yet browse Santa's very own FAQ file. Discover answers to burning questions, such as Why doesn't Mrs Claus go along for the ride? Who is Santa's favourite reindeer and How do I get on the "Nice List?"

However you choose to celebrate the holidays, have a grand one—online and off! ●

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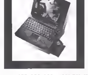

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PointCast brings personalized news to Canada

• • By SANDY MCMURRAY • •

You sweep into the office and plunk down your briefcase and coffee. As you check your appointment book, the screen on your desk flickers to life. News headlines flash by along with the latest satellite weather forecast. A small animated advertisement dances at the top of the screen while stock prices and sports scores crawl across the bottom.

It's not CNN. You're watching PointCast Canada, a personalized news retrieval service provided free of charge by Globe Information Services. PointCast Canada is designed to bring up-to-date news and information right to the desktop of Internet users. It works as an active news agent and as a screen saver when your computer is idle.

Since its debut in the United States in February of this year PointCast has been a hot download. The company has registered more than one million users. Approximately 800-1,000 Canadians have downloaded the PointCast Canada software each day since its September 11 debut, bringing the total number of Canadian registered viewers to about 70,000.

Match made in cyberspace

PointCast Canada represents the natural marriage of broadcasting and the PC, according to Michael [illegible], vice president and general manager of Globe Information Services. "We've combined the power of the Internet with the convenience of broadcast news to give viewers current personalized news and information."

Using a personal profile you provide, PointCast Canada uses your Internet connection to gather the news, sports and business information you want. This information is stored on your hard drive, where it stays until you retrieve it by clicking on an interesting headline. The system updates itself as often as you like by connecting to PointCast Canada HQ via the Internet.

The information in PointCast Canada is provided by several Canadian companies, including the *Globe and Mail*, Canada News Wire and Canadian Corporate News. Stock reports are provided by S&P ComStock.

PointCast Canada also hopes to deliver radio and television content from the Canadian Broadcasting Corporation in the next few months. According to PointCast Canada managing director Brad Geddes, negotiations with the CBC are progressing nicely. Geddes says "other major content providers" will be announced in the next few months.

Perhaps the best feature of PointCast Canada is the price—it's free. Like broadcast television, PointCast makes its money from the advertising that appears along with the content. PointCast provides a feature that television can't match, though: the opportunity for consumers to connect directly with advertisers by clicking on the ad.

PC news: Past, present, future?

Although PointCast is in a class by itself right now, Yahoo Canada lists a total of 24 Web sites that claim to provide some form of "personal news" services for busy news junkies.

The oldest surviving personal news service is probably Journalist. It was designed to enable CompuServe members to sift and sort through the massive amounts of news and information available on the CompuServe Information Service.

Some online news sources, including the *Los Angeles Times* and the *San Jose Mercury News*, provide free news updates by e-mail. Other sites, including Microsoft's MSNBC and the Microsoft Network, encourage users to create a custom home page complete with news headlines, sports scores and even online comics to keep readers coming back.

Netscape Communications' new program In Box Direct delivers personalized news from *The New York Times*, ClariNet News, *Wired* magazine, SportsLine USA, and other online sources to users of *Netscape Navigator 3.0*.

In the end, most of these personal news services—including PointCast Canada—fail to provide what many information junkies really want: an automated agent that would search through all the information available online and bring back only the news they care about.

If you want the news to come to you, PointCast Canada is the best there is — so far.

You can download PointCast Canada for Windows from http://www.pointcast.ca/

A Mac version is expected early in 1997. ◆

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AOL can't stop junk e-mail

• • By SANDY MCMURRAY • •

Junk e-mail—the kind of message that many people receive on a regular basis in their e-mailbox. Junk e-mail ranges from get-rich-quick schemes to unsolicited offers of products or services

According to America Online, junk e-mail is the number-one complaint of its members. AOL determined that much of the mail sent to its members comes from a few prolific e-mailers. Internet sites that make a business of sending unsolicited, mass commercial e-mail (some of these companies actually send unsolicited messages offering their services as a bulk mailer)

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On September 4 after "negotiating" with the worst offenders America Online announced plans to protect its subscribers from unsolicited incoming mail AOL began blocking mail from several domain names including cyberpromo com, honeys com answerme com, netfree.com and servint.com

"As the leader in this new medium," said AOL CEO Steve Case "we believe the time has come to take proactive measures against these sites to protect the interests of our members by limiting this annoying and inappropriate use of the medium."

AOL members fed up with junk e-mail could try *Junkbuster*, a shareware program that works with AOL 3 0 software

Junkbuster is designed to search the **FROM** and **SUBJECT** lines of AOL messages, then delete any mail that contains key words entered by the user *Junkbuster* is available for US$14 95 from Sage Computer Services. Send e-mail to sagesvcs@aol.com for moreinformation

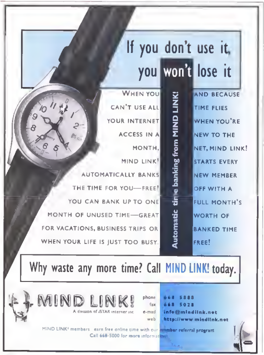
Whipping the tide

The spammers responded the next day On September 5, America Online was ordered not to block e-mail from Cyber Promotions, which owns three of the affected domains. The temporary restraining order was issued by US District Court Judge Charles Weiner pending a trial in November that will decide the issue

The Cyber Promotions lawsuit argues that AOL has no right to block Internet mail to anyone who has not asked Cyber Promitions to leave them alone

According to Paul Kochanski a lawyer for Cyber Promotions the company's messages contain instructions for people who wish to be removed from the company's mailing list The judge's order tells America Online not to block Cyber Promotions mailings to "recipients who wish to receive the mail"

AOL says it may appeal the court order AOL is also considering software that would make it possible for individual members to filter their incoming e-mail ◆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What's in a Web?

The second installment of the series will discuss the World Wide Web, often simply called "The Web."

Where is the thing called the World Wide Web? Who runs it? How does the Web differ from the Net? What happens when you can't get to a particular Web site? Are there important differences between one Web browser and the next? As we travel into this brave new world, we'll also define some words and phrases with which you may not be familiar

The third part of the series deals with electronic mail (usually just shortened to "e-mail"). What are the advantages of e-mail? How does e-mail work? How can a piece of e-mail travel so quickly and why does the occasional message go astray? How secure is e-mail? Who runs the e-mail system?

Chat rooms and emoticons (these sometimes-annoying smiley faces) are also covered in the section. Finally, I'll round out the third installment with a brief discussion of typical e-mail problems (and what you can do about them).

The final entry in this series will cover the Usenet and its Newsgroups. What is the Usenet and what is it used *for*? How does the Usenet work? What's the difference between a "moderated" how to avoid both when posting a message to a newsgroup "thread."

Sound complicated? Don't worry! By the time you finish this part of the series you'll also understand that a listserv is rather like a cross between Internet junk mail and a party line full of talkative university professors. Of course, there's a particular method to subscribe (and unsubscribe) to a listserv, and after you read the piece you'll be able to do both with ease.

Exploring the Internet and the Web

The Internet Even if you've been on Mars for last five years, you've probably heard these two words more often than anything else No doubt, you've also heard that everybody's connected to the Internet—from your neighbourhood grocery store to your stock broker—everyone's online

• • By DAVID ROSEN • •

Like any new technology there's a *fair* amount of hype and confusion surrounding the Internet. Unfortunately there's so much advertising and so many vested interests out in cyberspace that it's difficult to separate fact from fantasy What can the Internet do? More importantly what can it do *for you*?

This four-part series on the Internet explores these issues This first installment will concentrate on the Internet itself how the Internet was formed who runs it, how to connect to it and other issues We'll also explain the key differences between so-called Internet service providers (ISPs) and the commercial online companies including the costs and benefits of each alternative If you'd like a preview of what's coming up in the series, check out the sidebar entitled "What's in a Web?"

In the beginning

First, a bit of history. The Internet was born in the late 1960s and early 1970s as a project of the US Defense Department. Some whiz kid from the Advanced Research Project Agency (ARPA) figured out that if researchers could communicate with each other on a regular basis, projects would be completed faster. Thus, ARPANET was born.

About a decade later, the National Science Foundation (NSF) upgraded the existing ARPA sites with high-speed connections and began opening up accounts to large universities and some corporations involved with research. Soon, commercial Internet providers (as they became known) were selling accounts to just about anyone who had the necessary computer hardware and communications software

Unfortunately, people soon discovered using the network was designed for *alien* rocket scientists and not ordinary mortals. If you didn't know a *fair* bit of UNIX (and perhaps some arcane computer control languages thrown in for good measure) you were in for a tough slog.

Enter capitalism. The Internet became popular only with the release of easy-to-use widely available access software Since that software eliminated the need to learn UNIX, it traveled quickly from the university world into the commercial realm We'll be talking about Web-access software products such as Netscape's *Navigator* and the *Microsoft Internet Explorer* next time.

Today the Internet is a vast number of individual computer networks all linked together. Some people think of the Internet as a large patchwork quilt. Each square in the quilt represents an individual network of computers on the Internet, each stitch represents an individual desktop computer within each network

This means the Internet is massive By some

continued on page 72

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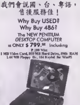

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Exploring the Internet ...

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estimates the Internet connects thousands of individual networks and some 40 million personal computers! It also means it's non-centralised: there's nobody really in charge and there's no "head office" of the Internet—at least, not in a way we traditionally think of head offices

Bring on the nukes

This is both good news and bad news Due to its decentralised design and operation the Internet is fairly difficult to sabotage (in fact, one of the US Defense Department's original design parameters was that the Internet should be able to survive a nuclear attack) The bad news is, there's nobody in charge and nobody to blame if things go wrong. Critics of the Internet suggest that this openness and lack of centralised control will lead to its eventual death due to it choking on its own volume.

So if you want to connect to the Internet—and you know there's no head office—what do you do? Well, you have two distinctly different choices You can either connect to the Internet using a commercial online service such as America Online or CompuServe or "go direct" to the Net through one of the (now many) Internet service providers (ISPs) Let's talk about commercial online providers first

As you read this article there are four major commercial online service providers In order of size they are America Online (AOL) CompuServe, Microsoft Network (MSN) and Prodigy All four services offer you a gated community model in which you can get news read magazines (online or downloaded) get tips and chat online with others within the service itself.

All four also provide Internet access, through their own software Until recently all four were priced identically at US$9 95 per month for the first five hours of usage and US$2 95 per hour thereafter with a few high-usage options Both AOL and MSN recently changed their prices—and Canadian access surcharges—so call them before you sign-up (see Commercial Online Providers sidebar)

CompuServe also charges premium rates for accessing its heavy-duty databases and other services described below

America Online Closing in on 7 million members AOL is the largest by far of the commercial online providers (in fact, AOL is larger than the other three services *combined*) AOL is available for DOS Windows and Mac users It's a good place to start if you're new to cyberspace since there's 24-hour a-day help and lots of people around

AOL has a low-geek factor It's pretty simple to use and has a lot of user-friendly conveniences If online service providers were theme parks AOL would be Disney World.

CompuServe Unlike AOL CompuServe historically appealed to technologically savvy computer people (AKA "computer geeks") Nowadays however CompuServe is targeted mostly at small- to medium-sized business people although it has made reasonable inroads into the consumer market

From the beginning, CompuServe members have had to deal with multi-digit user IDs such as "75000 000" (AOL, MSN and Prodigy all let people select their own user names using real English words, such as "Smart One" or "TooFast4U")

CompuServe's strength is in its databases For an additional—and often hefty—charge you can access some impressive databases from the comfort of your own keyboard

Microsoft Network The Microsoft Network has just undergone a major facelift and relaunch onto the Internet When it was launched over a year ago the other commercial services thought they were in for a battle for their lives In retrospect their fears were unfounded. fewer than one million customers signed up in the service's first year (impressive but hardly record shattering).

Those who did sign up and sign on found the service pretty much devoid of interesting content and prone to technical glitches These days, however, Microsoft has committed more resources to the service so things should start improving.

Finally since MSN is run by Microsoft, you'll probably never see a Mac version of the software.

Prodigy Prodigy seems to be on a downhill slide A few years ago it was the premier service but intrusive meddling by the owners (IBM wouldn't brook any criticism of its products in Prodigy's message boards for example) and dismal graphics have caused the service to actually *lose* members.

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ISPs are falling over themselves to sign you up Fees usually include all the necessary software (as do the commercial services) and are sold in specific blocks of monthly connect hours you plan to use (20 50 100 or unlimited are common break points).

Two closing comments the industry is changing rapidly and the big boys are moving in Some smaller ISPs have closed and others have consolidated with more financially secure operations

This being said, many thousands of Canadians are perfectly happy reaching the Internet with a local ISP If you plan to be online for extended periods of time—say 50 hours a month or more—the difference in fees between a commercial service provider and an ISP will be very substantial. Additionally most ISPs are *local* operations without many phone numbers in out-of-the-way locales. If you're a frequent traveler, you won't be able to get online with an ISP unless you call long distance a very expensive proposition, especially outside North America

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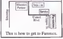

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